BEAUFORT SEA EARP HEARINGS 1983

DAILY SUMMARIES OF COMMUNITY AND GENERAL SESSIONS

Public Review Group
Northern Policy & Coordination
DIAND

April, 1984

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ABBREVIATIONS

ADM	Assistant Deputy Minister
APOA	Arctic Petroleum Operators Association
APP	Arctic Pilot Project
AWPPA	Arctic Waters Pollution Prevention Act
BRIA	Baffin Region Inuit Association
BSA	Beaufort Sea Alliance
CAC	Community Advisory Committee
CBC	Canadian Broadcasting Corporation
CCG	Canadian Coast Guard, MOT
CCGS	Canadian Coast Guard Ship
CEIC	Canada Employment and Immigration Commission
CNF	Canadian Nature Federation
COGA	Canada Oil and Gas Act
COGLA	Canada Oil and Gas Lands Administration
COPE	Committee for Original Peoples Entitlement
CWS	Canadian Wildlife Service, DOE
CYI	Council for Yukon Indians
dB	Decibels
Delta	Mackenzie Delta
DFO	Department of Fisheries and Oceans
DIAND	Department of Indian Affairs and Northern Development
DIZ	Development Impact Zone
DM	Deputy Minister
DOE	Department of the Environment
Dome	Dome Petroleum Limited

DPW	Department of Public Works
EARP	Environmental Assessment and Review Process
EDA	Economic Development Agreement
EIS	Environmental Impact Statement
EMR	Department of Energy, Mines and Resources
EPS	Environmental Protection Service, DOE
ESRF	Environmental Studies Revolving Fund
Esso	Esso Resources Canada Limited
GNWT	Government of the Northwest Territories
Gulf	Gulf Canada Resources Inc.
HTA	Hunters and Trappers Association
IBT	Ice-breaking Tanker
IDC	Inuvialuit Development Corporation
IPL	Interprovincial Pipe Line (NW) Ltd.
ITC	Inuit Tapirisat of Canada
LIA	Labrador Inuit Association
LUP	Land Use Planning
MAI	Mobile Arctic Islands
MANWT	Métis Association of the Northwest Territories
MLA	Member of the Legislative Assembly
MOT	Ministry of Transport
NAP	Northern Affairs Program, DIAND
NCF	Nunavut Constitutional Forum
NCPC	Northern Canada Power Commission
NEB	National Energy Board
NEP	National Energy Policy
NOGAP	Northern Oil and Gas Activities Program

NWT	Northwest Territories
Panel	Beaufort Sea EARP Panel
PIP	Petroleum Incentives Program
PPM	Parts per million
Proponents	Dome, Esso and Gulf (on behalf of oil and gas land holders in the Beaufort Sea - Mackenzie Delta Region)
RCMP	Royal Canadian Mounted Police
ROW	Right-of-way
SSDC	Single Steel Drilling Caisson
TAP	Trans Alaska Pipeline
Tuk	Tuktoyaktuk, N.W.T.
udjuk	Bearded or square flipper seal
USCG	United States Coast Guard
YTG	Yukon Territorial Government

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INTRODUCTION

The Department of Indian Affairs and Northern Development (DIAND) initiated public hearings by referring the Beaufort Sea Development "concept" to the Federal Environmental Assessment Review Office (FEARO) for review by an Environmental Assessment and Review Process (EARP) Panel on July 22, 1980. The Beaufort Sea EARP Panel held two sets of public hearings. The first set of hearings were to receive public comment on draft guidelines for the preparation of an environmental impact statement (EIS) and were held in late November and early December 1981. The second set of hearings were to receive public comment on the EIS and were held from mid-September to mid-December 1983.

The Northern Policy and Coordination Branch, DIAND, fielded an observer to all the community and general sessions of the Beaufort Sea EARP Panel's review of the EIS, which was prepared by the Beaufort Sea Development proponents; Dome, Esso and Gulf. Staff of the Northern Policy and Coordination Branch prepared and edited daily summaries of the community and general sessions. These summaries appeared originally in a numbered series and were widely distributed in that form. This document is a compendium of these summaries which has been edited and verified using the hearing transcripts. The spelling of participants' names generally correspond with that provided in the transcripts.

The daily summaries provide, in abstract, information which is contained in the lengthy, official transcripts of the Beaufort Sea EARP Panel community and general sessions on the EIS; "Beaufort Sea Environmental Assessment Panel, Public Meetings, Transcript of Proceedings" prepared by Total Reporting Service. They are an unofficial guide to the transcripts and should not be construed as representing any position or policy of DIAND.

A complimentary document to this one titled "Beaufort Sea EARP Hearings, 1983, Participants Statements and Comments on Key Topics and Issues", has been prepared. These two documents provide a guide to the hearing transcripts and the exhibits presented to the Beaufort Sea EARP Panel. A complete set of the transcripts and exhibits is available for public viewing in the Public Review Documentation Centre, DIAND, and interested readers and researchers are encouraged to contact the Documentation Centre by phoning (819) 997-9333 to arrange to view these materials. Copies of the transcripts and exhibits are also available by contacting FEARO.

Yellowknife NWT

September 13, 1983

The pre-session conference was intended to familiarize participants with the Beaufort Sea EARP Panel rules of procedure for the community and general sessions. Dr. Tener (Chairman), David Marshall (Panel Secretary), and Andrew Roman (Counsel for the Panel) were in attendance.

Participants

DOE, DFO, DIAND, GNWT, Dene Nation, Town of Inuvik and Proponents were in attendance at the pre-session conference. BRIA and Beaufort Sea Alliance among others were unable to attend. The Panel Secretary indicated that there are 45 participants who have indicated an interest in the hearings.

Transcripts will be available from both community and general sessions with a turn around time of approximately one week.

Media Coverage

Globe and Mail, CBC and northern press will be attending community sessions. The Panel Secretary indicated the Globe and Mail intends to provide daily coverage of the hearings.

Translators

Translation services are being obtained through GNWT.

Community Sessions - Rules of Procedure

The Panel Chairman indicated these sessions are intended to provide community representatives an opportunity to express their views on the proposal. Representatives of the proponents will not be allowed to cross-examine statements by individuals or organizations presented at the community sessions.

General Sessions - Rules of Procedure

Participants are required to file written material 2 weeks in advance of general sessions and to circulate written materials to other participants to permit participants time to frame oral questions prior to hearings. (The Panel sees this as a time saving mechanism). Technical statements are to be

accompanied by a curriculum vitae. Participants are asked not to read written statements but to make summary oral presentations. Participants will have thirty minutes for opening and closing statements (10 for opening statement, 20 for closing statement). No new material is to be introduced in closing statements.

Ottawa Session

This session will not be a "grand wrap-up of hearings", it is viewed as a good way of approaching senior levels of government (ADM or DM) to explore options open to them in handling development in the north. Cross-examination procedures will not be permitted although questions of clarification on position papers will be allowed.

The Panel Chairman indicated he has asked Deputy Ministers of participating departments to send their best people to general sessions in order to provide the best information.

Questioning during General Sessions

The Panel is seeking a vigorous dialogue and will exercise discretion in the types of questions permitted.

Participants are encouraged to use written questions, pertaining to written materials filed with the Panel, and provide copies to the Panel Secretary. Oral questioning during the session can be used for clarification purposes.

Technical Experts (hired by the Panel)

This expertise will be available to everyone to draw on during the general sessions.

Alaskan Participants

The Panel Secretary indicated that Alaskan participants will appear at the Inuvik general sessions. Individuals with experience in the James Bay Development and other megaprojects will also be present at the Inuvik sessions.

General Comments by Participants at the Pre-Session Conference

The Mackenzie Delta Regional Council wants to talk about regional planning and how the Council will relate to government.

The Beaufort Sea Community Advisory Committee (D. Hill) wants the emphasis on overviews of Beaufort development and does not want to get bogged down on specific items (e.g., specific river crossings).

The Dene Nation (Letha Franklin) has a number of consultant reports but cannot afford to get them printed and distributed to other participants. In addition, they cannot afford to pay for consultants to attend the hearings. (The Panel Secretary indicated the Panel would provide some assistance).

The Baffin Region Inuit Association (BRIA) indicated in a telex that it wants thorough discussion of each topic with sufficient time for written responses. BRIA representatives will be at the Resolute sessions (Lucien Ukalianuk, Simon Amagoalik, Judy Donaldson, etc.)

Tuktoyaktuk, NWT

September 14, 1983

The Panel Chairman (John Tener) welcomed the audience to the first community session on environmental, social and economic matters related to the transportation of hydrocarbons from the Beaufort Sea. He outlined the procedures interested parties should follow when making their presentations and submissions to the Panel, told the audience that the hearings are non-adversarial - that no one is on trial, and that the Panel is looking forward to good discussions of the concerns and interests related to the Beaufort Sea Developments.

The Proponents, Dome (Rick Hoos), Gulf (Andy Wissell) and Esso (George Bezaire) gave a slide show which briefly illustrated the activities in the Beaufort Sea during the past 20 years and covered the following:

1. Exploration activities - onshore - offshore - artificial islands - SSDC drilling platforms - caisson retained islands - floating conical drill units.

2. Export routes - the most feasible - tankers - pipelines - pipeline corridor going down to Norman Wells.

3. Idenfitied concerns list - the pace of development - effects on hunting, fishing and trapping - consultation - employment - training - social concerns.

The Proponents indicated they believe that these concerns can be adequately handled, both by the communities and by the proponents, and noted their abilities to handle items such as: oil spills; the research into the effects of sound emissions on seals, whales and other mamals; ice build-up/retention which results from the construction of artificial island; and the destruction of ice travel trails. Currently there are some 600 northerners employed by the proponents and their contractors in the north while some 150 Tuktoyaktuk residents are currently employed. To date, in 1983, business expenditures amount to some 25 million dollars in Tuktoyaktuk alone while some 75 million dollars are being spent with northern businesses in the Northwest Territories.

The Beaufort Sea Hunters and Trappers Association (Fred Wolkie, Emmanuel Felix, Roger Allen and Roy Goose - Submission B-1) emphasized that it is their land; they wish to be consulted and to have input into all aspects of development which may impinge upon their lifestyle and livelihood; compensation packages are not always adequate, they recommend the establishment of compensation boards; they accept that development is coming and believe pipelines rather than tankers to be the best current method of transportation; they suggest and recommend that the experiments currently being conducted with the Canadian Coast Guard icebreaker the Robert Lemure continue with great care; they recommend

the establishment of a harbour board authority for Tuktoyaktuk and McKinley Bay with considerable control in the hands of the local residents, particularly the Hunters and Trappers Association, and, they recommend the recycling of materials from abandonned artificial islands. The Baufort Sea Hunters and Trappers Association wishes to maximize opportunities and suggested: a review of training and employment opportunities and any possible inhouse problems which the proponents may be experiencing currently; the need to establish a firm progression, training and promotion regime; rotation schedules, the men appear to be away from home far too long; poor supervision techniques, they recommend further training for southerners which would include first cultural training; unions, the Hunters and Trappers Association need to be in control and this control could be achieved through legislation written by the Government of the Northwest Territories.

The Beaufort Sea Hunters and Trappers Association and the Tuktoyaktuk Hamlet Council (Submission B-2) emphasized their concerns related to ice build-ups resulting from artificial islands, oil spills and related clean-up difficulties, ship tracks cut in ice across well established and traditional travel routes during the winter and spring, and the need for harbour boards similar to the Shetland Islands harbour boards that were set up during the North Sea development. (The Proponents responded in general terms to each concern and indicated that extensive responses on each of these concerns have been submitted to the Panel and that these responses are available to the general public).

Various individuals came forward to address the Panel and most of the concerns related to lifestyles, oil spills, artificial islands, municipal share of tax revenues, the control of lands, land use and the lack of land, access by road from south, the need for environmental protection officers to be posted by the federal government in Tuktoyaktuk and McKinley Bay to supervise the operations of the proponents, the need for the Hunters and Trappers Association to patrol the environmental impact bodies, the belief that the Hunters and Trappers Associations are the control agencies for all activities outside of Hamlet boundaries and that the proponents must talk first to the Hunters and Trappers Associations and not to the Hamlet Councils, the overall belief that the people should have the last say in all activities which touch their lifestyles.

A local resident indicated that there was not enough information concerning the hearings being put into the communities, that only that evening had they become aware the meeting was actually taking place. (The Panel Chairman responded that Tuktoyaktuk has been well aware for two years that the Panel has been preparing for hearings and that a Panel employee, Mr. Roger Gruben has been very active informing the various communities and Hunters and Trappers Associations, particularly Tuktoyaktuk. A very real effort to communicate has been made to tell the communities what the Panel was all about and there were many discussions with Tuktoyaktuk concerning the best time to hold meetings.)

Aklavik, NWT

September 15, 1983

The Panel Chairman called the meeting to order at 19:45 p.m., introduced the Panel and went over the rules governing the meeting.

The Proponents (R. Hoos) made an opening statement briefly covering the history of hydrocarbon exploration in the area and noted that they are aware of resident concerns for the environment of the Yukon North Slope which have been addressed in the EIS. Based on Alaskan and other experiences there appears to be no significant harm caused by developments:

- the caribou have been close to Aklavik this winter and are currently 50 miles away;

- snow geese rearing areas on the Yukon North Slope have been subjected to government regulations and aircraft have been rerouted and no longer fly over the area;

- a twelve year whaling study is continuing and analysis have been submitted in the EIS;

- Don McWatt, an Aklavik resident, currently operating the Beaufort Sea Environmental Support Services Limited, is employing many locals and some 50 people from Aklavik are either employed directly by the Proponents or by their contractors; and

- some $300,000 have been spent this year in Aklavik for services such as trucking, barging, sand bagging and other support services.

The Panel asked if anyone in the audience knew about the construction of the Dew Line site at Stokes Point and its effects on the caribou in the area. (Mr. A. Oopik (Dome) indicated he had been involved in the construction of the Dew Line site with four others from Aklavik. The construction was noisy and went on for 24 hours per day and there were caribou wandering about the site for at least 3 weeks during the construction season).

Mr. Carroll (an interested citizen) expressed great concern about the quality of training and development opportunities available for young northerners. Greater efforts must be made to ensure that expanded training programs be made easily available for young northerners so that they could find meaningful employment at all levels within the oil industry. There appear to be too many grade 12 graduates merely moving into labouring types of jobs with no opportunity or hope of advancement. (Ms. Karnes (Dome) outlined the Tuktoyaktuk tech program. Some 50 students enroll each year and most graduate although there seems to be a lack of interest for future enrollment. The program is adequate,

the graduates are happy, and the jobs for those interested have been found. Credit should be given to those northerners who develop their skills and abilities through this program).

Mr. Nerysoo (GNWT - Submission B-5) made a presentation on behalf of GNWT, indicating that: the GNWT has participated in the Beaufort Sea discussions for years; Dome submits a socio-economic annual review to the GNWT; COGLA has dramatically changed GNWT's role since COGLA now fully negotiates the Canada Benefits package; GNWT will continue to participate in EARP and the Beaufort Sea development and is enthusiastic for this project while being aware of potential problems; GNWT has reallocated some 2.5 million dollars from other sources to fund residents in identifying the local impacts of development; GNWT is now ready to respond to the Dene/Métis Joint Training Needs Assessment Committee's final report; the GNWT Norman Wells Project Coordinator and other senior GNWT officials will conduct a full review of GNWT developments and concerns regarding the Norman Wells Project; the GNWT has developed a compensation policy paper covering the recompense to individuals for losses of lifestyle and/or livelihood; and, the GNWT is currently negotiating a land use policy with DIAND and other federal government departments. The GNWT does not support Gulf's application for the use of Stokes Point as their main base. GNWT wishes to see McKinley Bay used because it offers maximum development opportunities and will also develop a sizeable harbour which can be taxed. GNWT wishes to set up a port authority for Tuktoyaktuk and McKinley Bay. GNWT wants to see a pipeline transportation system rather than tankers. GNWT wants representation on COGLA's policy review committee when it discusses any northern related matters. The DIZ groups appear to be the answer to all of the committees which have been formed or will be formed by the federal government and its agencies. The GNWT proposes the development of a resource management and revenue sharing policy to see an equitable share of royalties and revenues.

Mr. Greenland (Chairman of the Aklavik Dene Band) told the Panel that his experts will give their presentations to the Panel when it meets in Inuvik. Mr. Berger's report recommended that the North Slope be set aside as a park because it is an area totally essential to the local people's way of life. He suggested that previous recommendations had not been listened to and that the Federal Government has already decided in favour of Stokes Point, Yukon North Slope and Beaufort Sea area development. He demanded to know who would follow-up on the Panel and the people's recommendations. (The Panel Chairman reminded the audience of the history and background of EARP and assured them that the government listens to EARP Panel recommendations citing an EARP Panel's recommendation that a nuclear plant not be built and the recommendation was followed. He assured the audience that the Panel would not hold hearings if the government would not listen.) Mr. Greenland asked about job training and business opportunities being offered in the North and he claimed that, based on his own personal information, the Norman Wells socio-economic statistics were entirely wrong. He went on to cite a case of discrimination. (The Proponents are investigating this and will report back to the Panel.)

Reverend Jeff Dixon (Anglican Church) expressed very great concern with alcohol and drug abuse and the lack of money management and budgeting skills of the people. He asked that a counselling program be developed for all employees. (The Proponents responded that they could and did counsel employees on the job but had difficulty when the employees were at home. If approached

by an employee, they would try and find someone to help. Dry camp rules have been established and will be rigorously enforced.)

Ms. Barton (Citizen) complained about the firing of her son. (The Proponents will look into this case and report back to the Panel.)

Mr. G. Edwards (Mayor of Aklavik) spoke of the need for extensive training program which would ensure not only construction jobs but long term operational jobs. He did not want to see people replaced by computers.

The Panel Chairman asked the audience how students could be helped or encouraged to continued their education. (Mr. Nerysoo outlined the GNWT University and Technical College funding and counselling services which are available to students.)

Mr. C. Furlong (Métis from Aklavik) told the Panel that he supported a pipeline but not the tanker transportation system. The pipeline would be easier to monitor, it could be supervised by the community and it would offer more jobs. He did not see northern people participating in the tanker transportation system. The Native people were being left out because of their apparently low educational level. Those who have found jobs experienced difficulty in adjusting. Recent graduates probably have a better chance in securing meaningful work and promotion. Dome's application for a licence to fly employees in and out represents a serious rebuke to local and northern air operators. The definition of a northerner presents problems. (The Proponents cited their definition of a northerner. Dome's definition is identical to the GNWT's, that is, a resident in the North for three years. Gulf expects their employees to have a permanent residence in the NWT and Esso requires a one year residency to be established.)

Sachs Harbour, N.W.T.
September 16, 1983

The Panel Chairman opened the meeting, introduced the Panel, briefly discussed the Panel's method of operating and called on the proponents to make their presentation.

The Proponents (R. Hoos) indicated that Sachs Harbour is near the proposed ship route and noted that much research is being conducted in the design of an Ice Breaking Tanker (IBT) and a scaled down version of one of the proposed designs, the Robert Lemeure, worked close to Sachs Harbour, earlier this year and was visited by many community residents. The testing program being carried out by the Robert Lemeure is consistent with the motion passed two days ago by the Tuk Hunters and Trappers Association. The design and construction of Arctic Class Ten IBT's is very costly and the proponents will need partners to share these expenses. The proponents are also considering a pipeline up the Mackenzie Valley. The proponents research indicates that:

- based on experiments conducted at McKinley Bay, with the help of members from the Hunters and Trappers Association in the Beaufort Sea area, crossing the ship track by skidoo or on foot does not appear to be difficult;

- full grown seals do not seem to worry about icebreakers and pups appear to be born in shallow water, away from IBT routes;

- IBT's present no harm to seals and so present no harm to polar bear and arctic fox which feed on seals;

- there appears to be no measurable effect of underwater noise on beluga and bowhead whales; and,

- snowgeese and muskox have been assessed but the researchers cannot yet determine how shipping will affect them.

Mr. Esau (Mayor, Sachs Harbour) questioned the effect of ships on seal pupping, based on a recent study of seals by Dr. Tom Smith (DFO) with the help of Holman Island people, and suggested that further studies should be carried out. (The Proponents assured the audience that ringed seals generally pup in shallow waters while the IBT's will sail well away from these areas i.e. in the middle of the Prince of Wales Strait. Square flippered seals (udjuk) prefer moving ice, similar to

the ships tracks. There may be some danger to udjuk pups but, since they take to the water after one or two weeks and the IBT's will make the trip every two weeks, this danger is slight.)

The Proponents noted there is very little difference in sounds made by ice moving against ice naturally as compared to that of ice being broken by an IBT. The effects of noise made by propellers are being studied. Studies with the U.S. Government indicate that the beluga and bowhead whales respond to ship propeller noise only when ships are driven directly at them.

Mr. A. Carpenter and Mr. R. Goose (Sachs Harbour HTA - Submission B-3) noted that:

- any damage to the environment will inhibit the lifestyles and the livelihood of subsistence hunters;
- noise and disturbance by propeller noise could affect the breeding habits and habitats of seals and other sea mammals;
- polar bear and arctic fox feed on seals, and if there are no seals these animals will move away;
- controls and measures to prevent oil spills are needed because spills could cause creatures to retreat creating both a desert in one area and much overcrowding in another;
- ships tracks could prevent seal populations from reaching the bottom vegetation on which they feed and if the seals starve so do the Inuit;
- ice build-up in ship tracks will cause much difficulty when travelling between communities, for caribou migration and create difficulty during spring break-up;
- the communities wish to use monitors on all projects; and
- industry should explain their projects to the community and receive final approval for all projects from Sachs Harbour. (The Panel asked how far the community wished to go with its desire to give final approval, what kind of control did they want to have and did they want to have a veto.) The HTA responded by saying that they want to know what industry is going to do and this could be achieved through adequate consultation.

There was not enough information in the EIS on the noise or on ships tracks and further study and documentation should be completed before the project becomes a reality. The IBT prototype experiment should proceed, the proponents should document their findings, and, if the evidence shows the IBT's are detrimental to the environment then they should be abandoned and a pipeline or some other transportation systems should be investigated. People need jobs and an equal opportunity to develop the skills in order to compete equally. The Federal Government would net huge revenues from offshore production and so Sachs Harbour should benefit by increased government services, job opportunities, training opportunities, and development of recreation and attendant facilities. Municipalities should be subsidized to pay their employees wages equal to those of the industry so that the better workers will be kept in town. Compensation should be established to review and award remedies for loss of subsistence or income.

(The Panel asked who training programs should be geared for, young high school graduates or older residents.) Residents indicated that most people will be mature. A training facility should be built in Inuvik. Married workers should be included. Training should be provided up to an Interprovincial Certificate level and certification should be allowed for on-the-job experience.

(The Panel inquired about compensation policies for loss or changes of lifestyle and livelihood, or, injury as a result of ships traffic.) The Proponents responded that their operations will be conducted in a manner to avoid damage. If, however, it is clearly identified that shipping is affecting hunting or livelihood then there will be compensation.

(The Panel questioned the manoeuverability of IBT's.) The Proponents noted that in open water the IBT is easier to turn, while in ice, it is much easier to stop. The proposed IBT will have three features which improve its manoeuverability: a reamer bow which makes the ship wider at the bow than the stern; the ability to heal 6° to each side by the rapid flood of ballasting tanks; and high performance rudders. The IBT will be able to turn in five to ten ship lengths at 10 knots in 2 metres of ice. Collisions will be prevented by announcing ships either directly to the community or through the CBC when the ship will pass near the community, the ships crew will be on lookout duty throughout the voyage, and the vessel will be restricted to a particular corridor by a ship control authority.

Holman, NWT
17 September 1983

Roy Keuneyuna (HTA) suggested that should development go ahead there must be a two to three month period of no traffic through the Northwest Passage, during the spring, when the seals were calving and pupping because the young are vulnerable and traffic would disrupt the breeding areas. Planning for oil spills and other marine disasters, in open waters and under the ice, needs to be done. (The proponents noted they have designed the vessels to ensure that oil spills are unlikely to occur and are working to develop procedures for oil spill cleanups such as booms to retain oil spills, skimmers to ensure maximum oil recovery, barges to haul away recovered oil and portable burners to destroy the oil that cannot be recovered. Based on studies of oil spills on the ice it appears that what isn't picked up usually freezes into the ice and can be burned off by portable burners or flares in the spring when it floats to the surface. Remaining oil is disbursed by wave action and can be cleaned up using detergents. The companies have trained personnel in the North and have deposits of equipment in activity centres. Industry is continuing its research and development on oil spills and as new equipment becomes available it will be assigned to the Beaufort Sea operations. It is difficult to estimate the quantity of oil recovered from a spill but a minimum of 75% would be an average amount. The amount recovered depends on the oil type, the amount spilled, if the spill is in moving or stationary ice, natural evaporation etc. A small tug which recently sank was recovered with its fuel tanks intact and the contents of the tanks unspilled because it was constructed with built-in spill prevention systems. The Panel Chairman asked what would happen if a major spill occurred in Prince of Wales Strait during the spring and how long would it take to mobilize men and equipment and get onto the scene The proponents suggested that such an oil spill would be from a tanker and the company will develop contingency plans before the use of tankers takes place which will include the identification of storage areas for cleanup equipment. Oil spill equipment is on all drill ships and placing equipment on ice-breaking tankers is being considered. Oil spill clean-up equipment would probably be positioned in Sachs Harbour and Holman so that the equipment could be at the spill site within one to five hours.) The ice-breaking tankers should be accompanied by other icebreakers and oil spill equipment and crews should be positioned along the Northwest Passage. There is a need to get Government icebreakers on site as soon as possible after an oil spill. (The proponents suggested that icebreakers don't need to be present to clean up oil spills and if ice is present in the Beaufort Sea there will be several company icebreakers available if required. The Government of Canada may obtain an advanced icebreaker capable of going anywhere in the Arctic if required.) The ice-breaking tankers should go north of Banks Island rather than through Prince of Wales Strait since there are many polar bears, snow geese, and other species in the Strait. (The proponents noted that there are fewer seals in the centre of Prince of Wales Strait than on the sides and there are

more animals on Banks Island than in the centre of the Strait. The companies plan to travel in areas where, with the help of local HTAs, there are fewer animals and less chance of disturbance.) The information on oil spills and dispersants is mostly speculation, not hard scientific data. (The Panel Chairman noted that scientific evidence will be presented at Inuvik in November where a full scale debate on technical issues could take place.)

A report was presented, prepared for the HTA by Robert Kuptana and Dr. Tom Smith of DFO, summarizing that:

- much work has been done in the last decade on the impacts on marine mammals and much is still to be done;
- the Panel should note the scientists dissatisfaction with the information and baseline data;
- the EIS is more speculation than prediction; and
- Inuit are concerned about the land and sea, critical wildlife habitat, technical issues and compensation. The land and sea are essential to the Inuit lifestyle since they provide the sole source of livelihood and are sensitive to disasters. Inuit are not prepared to see their livelihood taken away by destructive development. There are many critical habitat areas which require protection.

The panel asked under what conditions an ice-breaking tanker might be punctured. (The proponents indicated that a collision with another ship, a collision with land or ice, and a fire or explosion could cause a puncture. The ice-breaking tankers have been designed with a double hull, with an 18 foot wide ballast tank between the outer and the inner hulls, so that the ballast tank would have to be crossed before the inner hull and oil tanks are punctured. The only vessel capable of puncturing the proposed ice-breaking tanker would be another ice-breaking tanker of similar design travelling at 10 knots. If an ice-breaking tanker ran onto a rock at full speed the bow and double hull would have to be penetrated before the tanker is punctured. In this case the damage would be limited to two tanks so that approximately one seventh to one eight of the cargo could be spilled. For an explosion to occur oxygen, fuel and flames are required. Tankers have been operating for many years with their cargo tanks filled with an inert gas, such as exhaust gases from the ships engines, to prevent fire and explosions and this would be done with the ice-breaking oil tankers.)

The Panel asked if the use of oil dispersants in cold waters has been as successful as in the warm waters of the Gulf of Mexico. (The proponents noted research has been and continues to be carried out on the use of dispersants in Arctic waters. The results of the Baffin Island Oil Spill program are not yet completed however indications are that dispersants have been effective in breaking up oil spills.)

The Panel asked if the position of the ice-breaking tankers would be known at all times? (The proponents indicated that the ice-breaking tankers will report to headquarters in the North or to the Calgary Office, by an automatic device or by voice telephone, so that their position will be known at all times.)

Isacc Cunningham (HTA) suggested that it may be safer to use pipelines because not much is known about ice-breaking tanker use in the Arctic during the winter. (The proponents have given both ice-breaking tankers and pipelines equal consideration.)

John Rose (Holman Co-op) asked if the risk and probability factor of an oil spill had been calculated? (The proponents have calculated the risk of an oil spill of one thousand tonnes forty kilometers off Holman to be one in one hundred thousand, while over the whole route the risk has been calculated at one in four thousand. Both risk factors have been calculated over a one year period.)

The Panel noted that the ice-breaking tankers would use the same track throughout the winter and asked how wide the track will be by June. (The proponents anticipate using two ice-breaking tankers each year. Assuming these tankers will pass each other 39 times each year and they will cut a new track every fifth trip, the result could be eight separate side-by-side tracks measure a total width of four hundred metres (about one thousand three hundred feet). Prince of Wales Strait is eight kilometres (five miles) at its narrowest point so that eight tracks would occupy five percent of the total width.)

Allen Sim estimated that two hundred and fifty thousand barrels would be left behind if seventy-five percent of the 1.5 million barrel cargo was picked up or disposed of. (The proponents responded that if a grounding occurred in Prince of Wales Strait, although this is very unlikely, two tanks could be punctured and the estimated volume of the spill would be about two hundred and seventy-five thousand barrels not 1.5 million barrels. Assuming that such an accident occurred between November and July, the oil not picked up by pump immediately from the surface would freeze into the ice and could be picked up in the spring. Knowing how oil behaves in ice, industry is confident at least half the oil can be picked up and the remainder can be burned or disposed of by detergents.)

Albert Elias asked if the ice-breaking tankers would go around Banks Island rather than through Prince of Wales Strait. (The proponents have considered this but the ice conditions north of Banks Island preclude this.)

There is a need to protect the land and sea wildlife since it would be disrupted and frightened by ice-breaking tankers. Tankers would disrupt winter travel routes to hunting areas on Banks Island and Victoria Island and this could cause the collapse of the sports hunting economy and food supplies to the Holman community. (The proponents feel seal concentrations would increase in the ships tracks since breeding females would be attracted by the ease of building birth lairs for pupping. Some pups could be killed by icebreakers moving through these birth lairs. Increased seal concentrations could also attract birds, polar bear and fox.)

Simon Kataoyak (HTA) asked if seal migration patterns will be affected by tanker traffic. (The proponents noted it is difficult to learn how Arctic seals migrate. Seals in the Gulf of the St. Lawrence have not been troubled by traffic and Arctic research will continue. The proponents asked how many people cross between Holman and Banks Island.) Holman hunters don't go every year; there have been quite a few visits during the last five years and some times no one goes. (The proponents noted their experiments with ship tracks in ice show that they can be crossed on foot almost immediately and by skidoo within an hour or two.)

Robert Kuptana (HTA) spoke of Beaufort Sea Developments and their effects on the social, economic and environmental life of Holman, noting:

- there is no support of development for the benefit of someone else somewhere else;
- the Government of Canada should structure their policies to a standard which will minimize damage before having to take action since Holman will be the first to experience the results of any damage;
- compensation should be provided for hunters, trappers and fishermen for the loss of their subsistence and for the loss of commercial harvesting caused by development. Support the compensation agreement reached by COPE and Canada;
- what will be the effects on people and businesses if the oil companies leave the Beaufort Sea. (The proponents will give as much notice as possible to the people so that they can make other arrangements and will take care of employees with other job opportunities in the North or in the South.); and
- men working away from the community for extended periods will effect family life and the associated influx of large amounts of cash will cause impacts on the way of life and the fabric of the community.

Al Sim (HTA) asked how the ships will dispose of garbage and sewage. (The proponents noted they will burn as much as possible on-board, and steel etc. will be stored and disposed of or recycled or dumped in garbage areas ashore. There is no ocean standard for sewage treatment but secondary treatment is currently practiced on Ice Islands and on some ships.)

Coppermine, NWT
September 19, 1983

The Panel Chairman called the meeting to order at 19:45, introduced the Panel, briefly discussed the purpose of the Panel and asked the proponents to make their presentation.

The Proponents (A. Wiswell, Gulf) noted that:

- as yet not enough oil has been delineated in the Beaufort Sea for production;

- about 30 members of the community are currently employed by Gulf in drilling, general construction, welding and trucking. Employment is also available to community residents through mining, hamlet services, and the Coppermine Development Corporation, which employs 12 to 16 persons; and

- the proponents are aware of community concerns about the possibility of oil spills and their effects on hunting, fishing and trapping, and the effect of development on the Blue Nose caribou herd, seal, fox, wolf and polar bear.

Jim Guthrie (Mallach Base Supervisor, Beaudril) noted that training is not a new issue but it is misunderstood. Training programs are in place and people should take these programs if they wish to progress. Industrial training is provided by industry but educational upgrading is not the job of industry. Anyone with the appropriate skills, dedication and desire can move upwards within the company, the opportunities for advancement are already available. He noted that he was speaking for himself and not for Beaudril. (The Panel Chairman suggested that, if Mr. Guthrie's comments were personal views and not the proponents then, they were most inappropriate because the community sessions are for community comment not for external northerners. He suggested that Mr. Guthrie's comments, while they may have been appropriate in some senses, should not have been made in this community session .)

Tom Pilagak (Chairman, Coppermine Hunters and Trappers Association) indicated that Coppermine supports Holman Island and Sachs Harbour concerns about tankers and prefers a pipeline transportation system.

Ernie Bernhardt (GNWT Social Service Worker, Coppermine) suggested that the oil companies should provide the following assistance to employees in their home communities:

- hire a counsellor to assist employees' families when the member of the household is away at work, as this would help the employees maintain their selfesteem, think positively about themselves and look for promotions as a result;

- hire a person to develop a budgeting program to assist employees with financial controls and cash flows;

- increase the work of the present expediter to include duties of liaising between the family and the worker when the worker is away on the job, and between the worker, family and the company;

- provide an orientation program, including a budgeting component, for both employees and their spouses;

- company staff should make regular visits to schools, eg. on career days, and they should encourage youngsters to remain in school and complete their education to grade 12 and beyond; and

- the companies should make greater efforts to issue trades certificates to their employees.

(The Proponents responded that a review of the job description of their expediter in Coppermine is being undertaken. The proponents do hire qualified northerners as it is simply good business practice and in their best interests to hire northerners. Training is provided either through Tuk tech, other technical training institutions, or on the job. There are ample opportunities for advancement. Counselling is provided at the request of the employee when on the job. Rotational programs and special leave have been instituted so that employees can pursue their traditional way of life. School visits are made by company staff.)

The Proponents noted that:

- when activities began in 1976 there were 96 northern employees of which 6 were classified as skilled, 16 were classified as semi-skilled, and 45 were considered unskilled;

- by 1982 there were 213 northern employees of which 58 were skilled, 69 were simi-skilled, and 83 were unskilled;

- during 1982 there were 35 northern employees who received promotions; and

- in 1983 there were 190 full time northern employees, of which 95 or 55% were considered to be in the skilled or semi-skilled areas. Dome's financial difficulties resulted in reduced 1983 staff.

Jim Guthrie (Beaudril) told the audience that everyone should take as much training as they can handle and they should strive for certification. He noted, however, that he is the senior driller for Beaudril, the top job in Gulf's northern operations, but has neither certification nor diploma. He suggested that this situation is the same for other Gulf employees hired from Coppermine who have good responsible jobs. (The Panel asked if any of Gulf's employees had grade 10 or less and if training courses were available for those with less than grade 10 education.) Gulf indicated that most employees have grade 10 or its equivalent but they do have a heavy equipment operator who can neither read nor write. The courses offered don't necessarily require grade 10, for example, 2 senior foremen from Coppermine who don't have grade 10 this year completed training in fire fighting, first aid and hazardous cargo handling.

The Panel asked if there were any conditions in which an oil spill could affect Coppermine. (The Proponents indicated this could occur if there were several days of strong west to east winds and an unusual shift in the prevailing current, but records indicate that this is not very likely.)

Donald Taviook (Citizen) requested information on Tuk tech and asked if there was a quota system alloted to communities. (The Proponents explained that Tuk tech accomodates 50 students each year and these students are selected by the GNWT Department of Education and by CEIC. In the past 12 month period 13 communities were representated. There is no formula for selection by community, it really depends on who applies.

Rosemary Karnes (Dome) noted that in her opinion there is a need to extend Tuk tech and recommended the development of an advanced technical institute.)

Gordon Tarko (GNWT Department of Economic Development, Manpower) noted that the Inuit prefer training in their own community. If they have to leave their communities for training they would prefer to go to Tuk or some other northern community. (The Proponents noted that the Beaufort Sea Hunters and Trappers Association had proposed the development of a technical college in Inuvik.)

Alec Aliyak (Citizen/Oldtimer) requested reassurances about the effects of oil spills on wildlife. (The Proponents explained at some length that the possibilities of winds/currents, which flow east to west, changing to that of west to east is remote, detailed oil spill clean up procedures, and discussed assumed effects on wildlife such as polar bears, fox, seals, fish.)

The Panel asked for details on polar bear travel habits and oil spill clean up procedures. (The Proponents suggested that polar bears in the Coppermine area follow the flow edge and explained the existing clean up procedures e.g. portable burners, small tanker barges, retaining dikes, sump holes etc. on drill islands, and noted that the drilling of relief wells could take 1 to 2 months.)

Paulatuk, N.W.T.
September 20, 1983

The Panel Chairman called the meeting to order at 14:00, gave an overview of the Panel's duties and called upon the Proponents to make a presentation.

The Proponents (R. Hoos) indicated that, while they have no experience with icebreaking tankers, they do have considerable experience with icebreakers and cited the ongoing testing of the Robert Lemeure and associated experience. Many of the features presently being evaluated might be added to the equipment of future icebreaking tankers. The Proponents are examining the possibilities offered by a class ten icebreaking tanker and have designed such a vessel. The Proponents also have a pipeline transportation system under consideration.

The Proponents summarized the concerns identified by the community and noted:

- the need for community information and consultation is acknowledged;
- pre-design and emergency measures would greatly reduce the possibility of an oil spill. Crossings of ships tracks have been extensively tested and the results indicate no difficulties shortly after the ship has passed;
- udjuk utilize the floating ice pans left after a ship has passed. Extensive examination and observation of underwater ship noise indicate seals and whales are only scared away for a very short time;
- studies on polar bears, fox, seal, murres and hunting, fishing and trapping are continuing; and
- as business picks up over the next few years opportunities for jobs and training will develop for interested qualified candidates.

The Proponents hope Paulatuk residents will pick up on any job, training and business opportunities available, and are confident that the environment can be successfully protected so that benefits flowing from development will be of benefit to the community.

Gilbert Ruben (Citizen/Paulatuk - Submission B-6) presented the results of a community opinion survey noting that:

- of the 166 people living in Paulatuk 35 were interviewed during the survey;
- twenty three believed development of oil would be beneficial for the community;
- jobs and training resulting from development would lead to a better life;
- some fear environmental damage;
- development could lead to the people being less likely to live off the land; and
- the young people were surveyed and their concerns and aspirations are the same as the adults.

(The Panel asked if Paulatuk preferred the tanker or pipeline transportation mode). Garrett Ruben (Mayor/Paulatuk) said that the community did not have much of a feeling for a Mackenzie Valley Pipeline and did not deal with it in their opinion survey. (The Panel Chairman asked the Proponents to respond to the concerns listed in the opinion survey. The Proponents explained that they dredged the sea floor to construct artificial islands and glory holes and studies show the small sea life killed off by it regenerates very quickly, coming back to normal in two or three years. Artificial islands appear to have had no significant effect on land fast ice, polar bears and whales, but noted that the Tuk Hunters and Trappers Association does not agree. There does not appear to be any harmful effect from dumping government approved drill muds (barite) into the sea on sea life; barite is used and disposed off in the sea worldwide. Aircraft have been instructed to steer clear of snowgeese staging and nesting areas. The community could assist the Proponents by advising where the geese are and the appropriate times to stay away from the area. Eiders and other seabirds have been observed to move away from ships. Seabirds, eiders and old squaw, are most likely be killed if an oil spill occurs. Job priority is to hire locally, then regionally and then other places in Canada. The Proponents are currently employing about 1,000 northerners, in the Beaufort Sea and the Norman Wells Project, and currently have 5,000 applications on hand. The oilfield work force at Norman Wells is 60 to 70 per cent local hire.

Training will be simpler if and when production commences since workers will be on the job year round and can have effective training if they so wish. The Proponents are continuing to study fish stocks and possible hazards stemming from development and oil spills.)

Ed Gruben (citizen/old timer) said that after attending and observing all of the ice-breaker track crossing experiments he feels that the tracks can be crossed safely and that they will not inhibit ice travel in any way.

Ray Ruben (citizen) wanted to know about wildlife studies conducted to date. (The Proponents are continuing a 12 year long white whale study; continuing to work with the US and the Alaska bowhead whale studies; are funding Dr. Ian Sterling and Dr. Tom Barry's polar bear research; are funding Dr. Tom Smith's seal studies; are working with DFO in Tuk Harbour fish studies; and are studying drilling muds. They have studied just about every aspect of wildlife in the Beaufort Sea area and are continuing these studies).

(The Panel Chairman asked if counsellors should be appointed by the oil companies to help with alcohol related problems before they became serious and to help people with budgeting so they will have cash available during lay-off time). Garrett Ruben responded that the concensus in the community is that people should control their own money.

Fort McPherson, N.W.T.
21 September 1983

The proponents covered the history of the industry's activities in the North, and noted, that:

- consultation on future activities will take place;
- companies are aware of Fort McPherson's interest in business opportunity/training/jobs and on how development could benefit their community;
- studies have led the companies to believe that the caribou will not be harmed by development, that there will be normal impact on moose, and development will not inhibit muskrat trapping in the Mackenzie Delta;
- currently there are 50 residents employed at the Norman Wells Project or in Beaufort Sea activities, four are employed by Shetah Drilling; and
- the companies will continue to purchase from the sewing shop in Fort McPherson.

Charles Koe (Citizen) said he does not want to see oil companies on "our land" because the Dene depend upon the Delta for fish and animals of every kind. He noted that we all have to share, that there is only one kind of Canadian and not two, and urged the Panel not to forget "that we are one people trying to go one way together".

Nat Norbert (Arctic Red River) complained about having to come to Fort McPherson to speak and suggested the Panel should have gone to Arctic Red River. The communities have not had an opportunity to view the projects on which some residents are working. (Panel Chairman noted that Arctic Red River was contacted and agreed to meet the Panel in Fort McPherson. The proponents will extend an invitation to Arctic Red River for the next Beaufort Sea Tour.)

Hyacinth Andre (Arctic Red River) noted that since the arrival of oil companies game has been scarce, so scarce that trappers return with nothing. The natives will freeze if there are oil spills which will affect the fish population.

Ernie Firth (MLA Candidate, Fort McPherson) told the Panel their job is to listen to the concerns of the people and to deliberate upon the fate of "our homeland", the Beaufort Sea and of "our people". Development is inevitable but to be done properly the wishes of the people must be listened to. The record of training drillers, aircraft pilots and oil

executives from the north has been impressive. The excellent pay and training given by oil companies is appreciated by the community but there are problems such as the high rate of suicide and people live below the poverty line. Since development will go ahead, the companies must find solutions to these problems. The companies have studied the environment, the land, the water but haven't taken a serious look at the people. It will take ten years to explore for the oil and during this time the oil companies and government should get together in training the people so that they are ready for any development. (The Panel asked what improvements in training are needed.) Specialized training, such as the seamanship training provided by Canmar at their base during the winter, is needed. In this ten years the land claims will have been settled and the Dene will have sold their land to the government who in turn will sell it to the oil companies. He noted that in this matter the Dene will be sharing with Canada. (The Panel asked if the community would experience more or less problems if oil and gas developments proceeded.) Current experience indicates there will be more problems. Government and industry should get together to provide training on money management, and cross-cultural training to be given by natives.

Father Simpson (Band Manager and Interim Coordinator for the Delta Dene Regional Council) thanked the Minister for appointing the Panel since this appointment has caused the people to take a more active part in planning for the future. Industry received handouts while native people and northern businessmen received very little with which to plan for development of the Beaufort Sea; the federal government has given the Dene $3 million for socio-economic development programs while giving the industry $394 million in 1981. The Delta Dene have instituted a continuous planning process for future developments. Land claims will serve as a base for the protection of Dene land and resources; the protection of native peoples right to pursue a traditional lifestyle. The Panel should investigate the effect of the Beaufort Sea Proposal upon the lifestyles of the Dene people. The Delta Dene have not stated that they are against development, they want the opportunity to participate equally in planned development with a measure of control. He asked why the federal government established the North Slope Project Review Group, to recommend on land use permits which relate to future Beaufort Sea oil production and transportation, before the Panel makes any recommendations. The federal government appears to want to placate Dene interests by setting up a caribou management board; the community has had such an agreement for over two years and wants control over the habitat and asked why the federal government is now so interested after two years of unwillingness to discuss. The Dene have developed an ongoing planning process so that they can evaluate what's happening to themselves and pointed out the need for land use planning, the strengthening of the traditional economy and the implementation of specialized health programs. (The Panel asked if oil and gas production will help or aggravate the current social and economic condition.) If the proper

infrastructure and support are provided and the community is given a certain amount of control there will be social and economic benefits. (The Panel asked what would be a realistic time frame for development). The Dene need resources to do proper planning and time to review what the people want. It is not possible to indicate a specific time frame. (The Panel asked if the attitude towards development and participation in the Beaufort Sea would change if land claims are settled in two to four months). There is the question of of overlap with COPE and Dene claims and they hope to have the issue resolved in two or four months. The Delta Dene are eager to negotiate with COPE but they have problems with the parent organization who refuse to give the resources to negotiate. Hopefully, land claims will provide Dene control, institutions and health programs but no land claims settlement is envisaged in the foreseeable future.

John Charlie (Chief, Fort McPherson) complained about the damage to the environment and the destruction of wildlife caused by exploration, the lack of clean-up, and noted the need for protection and compensation. The Porcupine Herd is a source of meat which is affected by the no hunting restriction placed on the N.W.T. side of the Dempster Highway. A pipeline built up the Mackenzie Valley will go through many trappers lines. (The Panel asked if Fort McPherson had representation on the game management board for the Dempster corridor.) Fort McPherson is not represented on the board and has hunting restrictions. People over 50 should be allowed to hunt without restrictions; now there is a 20 mile restriction on the Dempster Highway.

Charlie Snowshoe (Vice-President Dene Nation, Member Fort McPherson Band Council) objected to the way the community is being handled by the government and oil companies. People are being thrown around just the same as their land claims. Stokes Point and the Beaufort Sea are a concern just the same as fish and whales. The Dene have been forced into the Norman Wells joint venture, and, in fact they have no interest in it. The government is giving the Dene "the big runaround" by setting up a committee with the Yukon Government and oil companies to deal with North Slope interests and have deliberately left out the Dene, Inuit and the Government of the Northwest Territories.

William MacDonald (Old Timer) asked about Gulf's Stokes Point proposal. (The proponents told the Panel that there is a proposed exploration base for Gulf/Beaudril who have made applications to DIAND. DIAND ordered the formation of a project review committee consisting of COPE/CYI/YTG. The committee is talking to the people who may be affected. The company does not have authority to proceed. The proposal is still under consideration.)

Fort Franklin, N.W.T.
23 September 1983

The Panel Cairman told the audience that the Panel had been appointed by the Government of Canada to hear the concerns of the people in the communities with respect to the production and shipping of gas and oil from the Beaufort Sea. He mentioned that they have had some very good meetings and will write a report in which Fort Franklin's views will be included.

The Proponents (G. Bezaire) made their presentation and reviewed what would occur in Fort Franklin as a result of the Beaufort Sea Development. In summary:

- reviewed the history of the last 15 years operations;
- remarked that on the basis of drilling so far the Proponents are hopeful that they will soon discover enough oil and gas to start production;
- explained that oil and gas transportation to market will be either through a pipeline (which will likely be larger than the pipeline at the Norman Wells Project), and/or by ice-breaking tankers;
- noted that the people of Fort Franklin have demonstrated great interest in business opportunities and cited the contract signed by Esso and Fort Franklin Band Council to provide services to the project at Norman Wells Project;
- suggested if Beaufort Sea Development is approved, there will likely be more business opportunities;
- noted that there are twenty people from Fort Franklin working for either Esso or their contractors; and
- remarked that industry was concerned about environmental impact and stated that industry would take measures to protect caribou and moose.

George Blondin (Retired Chief, Fort Franklin) noted:

- Dene people in the past have had much experience in this type of meeting;
- Dene told Berger that there should be no development before land claims are settled, but due to the slow process of land claims they agreed to development and therefore have to be partial to it;

- Government has leased land to oil companies without consultation from the Dene who own the land. "How are we expected to settle land claims when our land gets smaller";

- Chief and Councillors are looking at the business opportunities, contracts and jobs for Fort Franklin residents. They want the Proponent to keep promises that Dene will be part of the development;

- worried by low levels of water and the proposals to build dams in other parts of the country, projects like Beaufort Sea need a lot of electricity;

- aware of a plan to build a dam at Fort Smith which will cause all rivers and inland waters to drop. Now there is talk of a dam at Bear River. If the Proponents plan a pipeline from the Beaufort Sea, could they please use generators instead of electricity.

Charlie Barnaby (Chief, Fort Good Hope) spoke on behalf of Fort Good Hope:

- lots of people have given up speaking for themselves, they are going down hill;

- the Berger hearings were held all over the N.W.T. everyone had a chance to speak and everyone said no pipeline. Berger said no pipeline for 10 years but now new people are coming into our communities bugging us to make a deal. How can we protect our land;

- now a new pipeline from Norman Wells is going in; taking oil and our lands. What benefit do we get. There must be serious discussion with native people;

- people come and ask us for a "land use permit". There is no point asking if they already have it from the Government. How can we have rights to our land, how do we protect our land;

- Dome has a lease to a huge tract of land near Colville Lake, and the people didn't know this. This is a good example of what a company can do, the least they should have done is ask. This is why some people no longer speak out at meetings, we end up repeating ourselves;

- every year our elders die and never see any land claims settlements. The ones who spoke to Berger are now dead - at least they put in a word for us;

- Norman Wells is booming now but how many natives have been hired. Southerners are arriving all the time for they have skills yet what do we get out of it.

George Kodakin (new Chief, Fort Franklin) noted:

- the elders spoke to Berger and gave their concerns;
- the companies told us about Norman Wells Development, they made all their promises sound so good and they said they would only ask for leases with our permission;
- companies said they would consult us about our concerns before anymore development, they promised we would get something in return for development yet we seem to never get anything out of it;
- government always says they will take into consideration all of our concerns yet they never keep their word. We are talking to ourselves. We hope the Panel will take into consideration all things said at this meeting;
- we want royalties for development, we want something in return for all the work going on in our land;
- we consider this our land. We have been here for thousands of years so we know this is our land.

John T'Seleie (citizen, Fort Good Hope) recounted that:

- Berger recommended no pipeline for 10 years. There might be enough time for Dene to sort out land claims and have a basis for negotiation for development if they had 10 years;
- people are asked what they think of pipeline to Beaufort Sea but don't have enough information on the project e.g. how close to the community will the pipeline be, or about the damming of Great Bear River for electricity. (The Panel Chairman - gave an outline of the Panel's mandate. Communities were sent a very large volume of information describing what the Proponent proposes to do. The communities were also visited by panel staff. The Proponents commented that they will generate electrical power using natural gas generators. Dams are not part of the proposal.)

Alvin Yallee (speaking on behalf of Chief Paul Wright of Fort Norman)

- in the past people tried to put a stop to any pipelines. No matter how good a fight they put up there is still a pipeline going through the valley;

- we must work together to get maximum benefits for the native people of the valley;

- Panels have always shown great concern for land and wildlife but not much concern for native people;

- need better working relationships with Native people and to redevelop and improve communication between communities, companies and the Government. The Colville Lake leases are a typical example of poor communication;

- poor communications are a reason why people want to go to meetings;

- alcohol is the biggest problem and is an area the Panel should examine;

- small businesses in the valley who wish to participate in the pipeline development should be given every support by the community and by the companies;

- the panel should look at the Norman Wells project to understand the issues thus get a better start to your project;

The Panel asked what is the preference of the people if they had a choice. Would like to see work of this sort in the North and at a level where everyone works together and where northern people can benefit. (The Panel inquired whether Fort Norman was dry.) Only Fort Franklin is dry. Alcohol is the major problem. The Band Council is looking for ways to curb the problem. If the Panel were to ask the people their views of the proposal they would probably go for it. Times are hard and they want a fair share and a deal.

What are the Panel duties and why are there no members from the MacKenzie Great Bear Region or from the Wrigley Region. (The Panel Chairman explained the Panel's mandate and told the audience that it is the Government of Canada who makes the decisions not the Panel. The Panel merely makes recommendations to the Government.)

Paul Wright (Chief, Fort Norman) said:

- that if he and his children are to benefit from the pipeline he would be willing to cooperate and work with the people;

- our people need training;

- if native people want to start businesses they must get funding. If development comes they will have opportunities to start businesses and will thus be involved in the development;

- alcohol is a serious problem in every settlement. The young get involved with it when out on training. We must work together to solve the problem;

- hope to see some changes for the better.

Paul Baton (Councillor, Fort Franklin) told the Panel that:

- we love our land;

- the pipeline should only come after land claims are settled;

- if no land claims and development takes place we will loose out on everything. We have not benefitted from gas and oil developments so far.

George Blondin (Fort Franklin) asked how the proposal fits into government programs such as land use planning and wildlife management, or Water Board hearings. He recommended:

- that a monitoring agency be formed to oversee the problems of people living along the right of way;

- that Dene employment be investigated for discrimination; and

- that southern education is brain-washing Dene children, they are losing their culture.

George Kodakin (Chief, Fort Franklin) voiced his concerns:

- about the children and their future. Would like to have jobs and training waiting for them when they leave school;

- complained that elders found minerals at Fort Radium and the people never benefitted. The same happened for Norman Wells, it was found by Natives but the people never benefitted.

Norman Wells, N.W.T.
26 September 1983

The proponents noted that they have not yet discovered enough oil and gas to allow the start of production and even if sufficient commercial reserves were found the construction of a pipeline would be unlikely in the next three years. Norman Wells is not currently affected by Beaufort Sea activities. If a pipeline is built, there would be much activity because the proponents will use Norman Wells as a Regional Centre, resulting in a work force similar to the one currently in place; twelve hundred workers. The Norman Wells project is a prototype and its effects are worthy of examination since much will be learned from an assessment of the mitigative measures implemented for the project. There is still more work to be done by the company, in the concern areas of unions, public safety, increased consultation between the company and the community and interchange of ideas, so as to realize more opportunities. The proponents are committed to the protection of the environment.

Kathy Bjornson (Mayor, Norman Wells - Submission BE-28) stated that the experience gained during the oil field expansion has been educational and they are much wiser now. The Mayor emphasized the following:

- the need for acceleration of training and skills development;
- the formation of a DIZ group;
- the need for mitigative measures funding for Northern Wells to front end municipal infrastructure development and acquisition. Promised GNWT capital projects have been either cancelled or delayed;
- the development of long range planning to lessen and spread anticipated impacts of the next project;
- more staff benefits for locally hired Esso employees;
- recommended the establishment of a fund similar to the Alberta heritage fund with terms of reference in a like manner.

(The Panel Chairman noted that there has been a drug abuse problem in the local school and asked how these concerns were being handled by the community and the Hamlet Council.) The community does not know

how to curb drug use and abuse and does not know for certain what help is available for alcohol abuse. It is not known if transients are causing a problem.

William Byrne (Norman Wells - Submission BE-26) complained that promises made concerning the Norman Wells project never materialized, no planning had been done, capital projects were either cancelled or deferred and hiring practices left much to be desired (Esso described the operation of its employment office in Norman Wells, its users, its interfaces with government and contractors and the volume of business; three thousand applications were received in 1983. Concerning northern recruitment and union agreements Northern Loran and CBT Unions have agreed to recruit northerns directly, however, other unions operate somewhat differently. The breakup of contracts into small packages is now a standard practice and mainline contractors are encouraged to sub-contract wherever possible.)

Violet Doolittle (Metis Association, Field Worker, Norman Wells - Submission BE-28) brought the following to the attention of the Panel:

- there is not enough information or knowledge available to them to comment upon a sixteen or forty-two inch pipeline;
- there are no communications between native organizations and companies;
- the Federal Government slavishly accepts Esso's statistics. There is a lack of information on who is on training;
- there is an abuse of wildlife resources and an apparent ease of obtaining big game licences;
- oil spills;
- employment of natives is a problem due to the lack of promotion and problems with unions. Natives need to be trained for supervisory positions;
- alcohol and drug abuse;
- low rental housing, meant for migrating native workers, is being provided to transient southerners;
- competition from southern businesses makes life difficult for small northern concerns;
- there is no project monitoring system set up;
- Esso's baseline community study is not being followed up; and

(The Panel asked at what level does the MANWT have input into GNWT on matters such as game, education, alcohol controls, and native housing.) The MANWT has a newly elected executive who are currently familarizing themselves with their new roles and, given time, they would inform the Norman Wells local about this.

The Panel asked for information on oil spills contingency planning. (Esso described the equipment it has on hand at Norman Wells, the two exercises conducted each year, additions to equipment each year and the ongoing development of new technology and noted that IPL will establish its own contingency plans for the pipeline operation.)

Liz Danielson (Citizen) commented that:

- small contractors find it difficult to bid on large contracts;
- the union factor is particularly difficult, the wage differentials between union and non-union workers can be up to ten dollars per hour;
- there is a lack of assistance for the municipality;
- no accounting of federal impact funding has been received from the GNWT;
- there is a need for a full-time doctor in Norman Wells;
- no report has been received from the RCMP concerning drug and alcohol abuse. The alcohol rationing system is not working to anyone's advantage.

Warren Schmidke (Local Government Development Officer, Norman Wells) commented that he was surprised by the requirement for Northern residency since section 6 of the new Constitution (Mobility Rights) seems to prohibit this though there is agreement that there are special privileges for the NWT and Native peoples. The GNWT liquor outlet was both a privilege and a right. It is a privilege granted by the Commissioner and rationing showed considerable and commendable foresight by the Commissioner. Despite complaints, crime control has been good and Norman Wells has a responsibility to other communities because of the distribution of alcohol and elicit drugs which originate in Norman Wells. The Norman Wells Project is successful, funding did appear and not in the ad hoc manner some would have the Panel believe.

Phyllis Linton (Counsellor, Norman Wells) commented that the Norman Wells Project was a model project which needed extra-ordinary handling and funding, a more imaginative approach to its planning and financial assistance programs, and, which highlighted the need for upfront funding for future projects.

Rick Myers (House Builder, Norman Wells) suggested that Norman Wells is more than a place to work, that it is a place to live. Esso has assured its responsibilities to the community by instituting a rotational work program. (Esso noted that this was a deliberate policy change in order to offer greater Northern employment opportunities.)

Sandra Stevens (Citizen) demanded to know what industry was willing to provide natives. Natives are an asset to industry and it must take a chance and give opportunities, which it says are available, to natives.

General discussions

1. Better education and trades training is needed. (The proponents see the lack of education as the main stumbling block - there is a need to get the level of general education upgraded so that northerners can access jobs.)

2. The Shetah company is seen as a stable and steady operation which can train and develop local people.

3. Big game hunting and the impact of the pipeline corridor (The proponents noted that IPL is involved with GNWT and appropriate HTA's to examined the impact of the pipeline on hunting and trapping. The Panel indicated to Esso that it will require a full answer to this concern at the technical sessions.)

Fort Good Hope, N.W.T.
27 September 1983

The proponents noted that Fort Good Hope is not significantly impacted by the Beaufort Sea operations and suggested that should a pipeline pass close by any effects would be small and of short term. 23 people from Fort Good Hope are currently employed at Norman Wells.

Charlie Barnaby (Chief, Fort Good Hope) welcomed the panel and told them that residents do not appear to be interested in the panel; 26 families just left the community to go hunting, and people are too busy working to attend, hence the very poor gathering.

John T'Seleie (Fort Good Hope Band Council - Submission BE-19) reviewed the history and methodology of the Dene Nation's land use research program which established that the land belongs to the Dene. He asked if it would be possible to continue to hunt and trap on any right of way. (The proponents noted that IPL will permit trapping along the Norman Wells pipeline right-of-way and the GNWT will establish a hunting corridor along the right-of-way.) The people have been forced to negotiate benefits after the fact, e.g. they are currently negotiating a compensation package for oil spill damages, and this should have been achieved before the Norman Wells project began. It is possible to conduct large scale development in the North but it must be done differently; with more care, more studies, with more time, and more involvement of local people. (The Panel asked, what additional data is needed.) The Panel should look at the materials generated by the Berger Commission, because the major works commissioned by the oil industry at that time can't be trusted, and more independent studies, rather than those carried out by industry, are needed.

Ed Grandjame (Fort Good Hope Band Council - Submission BE-20) noted that he indicated to Berger that there should be no exploration or large scale development until land claims have been settled and agreements achieved on how development should take place. Despite the Constitution, the Dene still do not know their rights to their own land and until this has been spelled out to the satisfaction of the Dene there will be no development. The Canada Oil and Gas Act, however, gives the Federal Government the right to do as it wishes with Dene lands. The Panel should protect the Dene and make recommendations for compensation and royalties. The Minister of Indian Affairs and Northern Development visited the community and discussed the various things the Dene see in an interim agreement to protect their lands and resources until land

claims are settled. This interim agreement would serve to protect them, since development is happening regardless of what the Dene say, because it will slow down development in order to get ahead with land claims. None of the Dene concerns have been recognized by the Federal Government. (The Panel responded that of the 22 EARP reports which have been submitted to the Government, none have been rejected and many if not all EARP recommendations have been accepted by Government e.g. the Lancaster Sound drilling proposal where the Panel recommended no drilling because the Company could not demonstrate that it was capable of a good job. There is no agency or group in place to monitor how recommendations are carried out. The panel has to decide how best to have a "monitoring system" in place before development takes place.)

The Panel asked the proponents to comment on compensation. (The proponents commented on compensation for damages noting that:

- many groups are studying this issue;
- DIAND has put out a Draft Discussion Paper;
- the GNWT announced its policy at the panel's Aklavik community session;
- YTG has the matter under consideration;
- IPL is studying the issue regarding the pipeline;
- compensation is being discussed in land claim negotiations;
- Fort Good Hope and Esso are actively discussing the matter;
- industry has developed a position which is included in the EIS;
- damages for oil spills are covered within federal legislation; and
- Dome's procedure is to pay for direct damages to property or direct loss of income resulting from that damage.

Dome believes that direct negotiations between the operator and the damaged party is the best way to approach the issue. The proponents accept the view of Fort Good Hope that financial compensation is not the only way to compensate people for damage and are prepared to consider some compensation in kind where appropriate.)

Debbi DeLancey (Researcher, Band Council) noted that a Norman Wells Project oil spill, in July 1982, drew extensive criticism on Esso's inability to handle the clean-up. The community had reviewed the contingency plan and found many deficiencies, and, were deeply disturbed because they were told by the NWT Water Board and

Environmental Protection Service that the plan was the best in the country and they could not understand Fort Good Hope's worries. There is no legal requirement for any regulatory agency to take Fort Good Hope's concerns into consideration and the NEB has either rejected or ignored the Norman Wells EARP report. The Band Council now questions the need to voice their opinions again to this present Panel. The community needs to have major input into project development, and they have no wish to rely upon the good faith of industry since government is responsible for ensuring all concerns are addressed before authority to proceed is given. Oil spills dramatically effect a total way of life. Accordingly it is not enough to talk only about compensating direct damages; the point of any compensation policy is to allow the way of life to continue. It is the Government's responsibility to make arrangements with the communities for compensation before giving authority to industry to proceed.

Dolphus Shea (Band Councillor, Fort Good Hope) said that despite all that was said to and by Berger, development is going ahead anyway e.g. the current Colville Lake talks. Even with considerable education and training, he has experienced great difficulty in getting responses to his applications for work. The interim agreement concerning oil and gas exploration near Colville Lake will be useful and will force the Government to deal over the table instead of under it.

The Panel asked what percentage of natives were on the Norman Wells Project labour force. (Esso said that 15% of the total labour force is native and noted that both the construction and operations phases should be considered. Within the operations phase 25% are on the permanent work force and the turnover of natives within operations is very low.)

Frank T'Seleie (retired Chief Fort Good Hope) stated that the people are being overwhelmed by the following development:

- Beaufort Sea activities;
- leasing of 1 million acres in the neighbourhood to oil companies;
- blasting of the Ramparts on the Mackenzie River to deepen the navigation channel;
- thirty years of pipeline construction is anticipated;
- Colville Lake/Dome issue;
- need to examine environmental health; and
- racial clashes in work camps.

He asked if the energy is really required and expressed the need for the Dene to have control in order to plan their future.

Frank Pope (Hunters and Trappers Association/Fort Good Hope - Submission BE-21) noted the HTA doesn't wish to stand in the way of resource development but exploration and drilling are causing much damage to the trapping areas. The Dene have little to show for their hunting and trapping efforts and work, despite the huge amounts of money spent by the oil companies, because all they receive is employment as labourers. Long term jobs and business opportunities are needed that suit local needs and training. Local monitoring of exploration companies, the development of compensation clauses in any authority to proceed, and local input into regulation and monitoring systems, education and pre-employment training of children is needed.

Charlie Kochon (Colville Lake) indicated he is extremely upset and very angry, there are now 21 companies operating in and out of Colville Lake and the natives are always being stepped on by the whites even though the land belongs to the natives. There do not seem to be many natives working at Norman Wells, only the whites are getting rich while the natives get nothing.

Lucy Jackson (Fort Good Hope) indicated that the Norman Wells Project accounts for half of the social problems in Fort Good Hope, it is too easy for natives to get into trouble and there is not enough housing for natives in Norman Wells. Natives are being destroyed by development and are getting little or no help so there should be no pipelines and no development.

Fort Norman, N.W.T.
28 September 1983

The proponents have been looking for oil for many years in the Beaufort Sea and, while not enough has been found to start production, planning for production has started. Both government and industry are looking at how best to move the oil to market either by pipeline, ice breaking tanker or both. If a pipeline is used the impact upon Fort Norman would be about the same as the impact of the Norman Wells Project has had on the community.

Paul Wright (Chief, Fort Norman) noted that communication is very important particularly meetings like this which provide an opportunity to express feelings. There will be major problems in the community and they will gain nothing from the development despite assurances of the companies. "This is our land and everything on it is ours too" and we do not want "our way of life changed". He complained that the young cannot find funding or money to start businesses, of the high cost of living, of rent increases, of the difficulties of making ends meet after four months of trapping and the lack of jobs.

Fred Widow (citizen) told the panel that people are concerned with development "on our land" particularly pipelines, dams.

Alvin Yallee (citizen), who also spoke at Fort Franklin, suggested that:

- there are far too many organizations in town receiving information and doing little or nothing with the information, accordingly the companies should talk to only one group in town, preferably the regional organization, so the people will be better informed;

- IPL's wildlife harvesting policy does not reflect Fort Norman's concerns and needs nor does it reflect its wishes for a compensation program. He asked that the policy be reviewed with the hunters and trappers;

- small businesses should be able to get all the assistance and information they need and require from the proponents in order to secure contracts. Two year's notice is needed in order to prepare for business opportunities;

- problems with employment on the present project include a lack of training, alcohol abuse and the need for people to be sent out on training. One year's notice is needed to train people and there should be a co-operative approach to training, by the community and the company;

- the community and the company should get together to solve alcohol problems, including making the camps "dry". (The proponents noted that the IPL camp is dry and this was decided in consultation with and on the advice of the community);

- people have no knowledge of unions and have experienced difficulties applying for work with unionized companies; and

- the companies should sponsor training programs which will give employees qualifications. Employees should receive training in money management programs, alcohol counselling, and career planning to ensure advancement. The companies and the government should save the labour jobs for southerners.

The panel asked for assurances that local people will be involved in current and future projects. (The proponents noted that involvement in projects is a matter of personal choice. Local involvement has occurred with the opportunities offered by the development of IPL's camp at Fort Norman. While the prime contractor for the Norman Wells Project, PeBen, is unionized training and employment plans and programs have been put in place. Information concerning work and business opportunities are given to the community well in advance. Esso has made considerable efforts to advise the community of work opportunities, given workshops to the community employment officers, made recruiting trips into the community, involved the community in the selection of members for training, held meetings with the Mackenzie-Great Bear Regional Committee, offered on-the-job training programs to employees for alcohol and other problem-related areas, and involved the community leadership and the community with employment and business contracts.)

John Blondin (Elder) reviewed the history of his fathers discovery of oil at Norman Wells and his surprise when he saw whites staking oil claims in 1920. He noticed that the major problem within the local labour force appears to be alcohol.

Elizabeth Yakalaya (Elder) expressed fears of oil spills and the need for long term jobs and training programs.

Susan Haley (Business Person, Fort Norman - Submission BE-24) severely criticized the quality of the EIS presented by the proponents, since its neither a proposal nor a plan and that the information provided underestimates impacts. (The Panel Chairman noted that the deficiencies listed had been responded to by the proponents in the new reports they presented to both the Panel and communities and this information should be used. Since the Beaufort Sea proposal covers so vast an area, is so complex, the people effected so widely distributed, the Government of Canada decided to ask the Panel to look at the broad proposal in order to help the people decide on the pipeline, icebreaking tankers or both. The Panel has been asked to look at the environmental, social and economic impacts of such a proposal and to comment on these to the Government of Canada. The proponents noted that the reliability of the statistical information is not known though it is taken from

community sources.) Despite the two year delay in the commencement of Norman Wells not many initiatives have been taken to create new businesses; the community has not been informed by the government or by industry nor has money been set aside for business and job development. The reason Fort Norman tolerated the pipeline and camp was it's hope for financial benefits for local people. IPL held out the promise of lucrative contracts to the local people, which persuaded the Band to grant a right-of-way, but is withholding contracts. There was a considerable lack of planning for the Norman Wells Project. Should there be a pipeline for the Beaufort Sea Project the community should be involved in its planning.

Jonas Neyelle (Retired Chief, Fort Norman) noted that the Dene are uncertain about land claim settlements so are becoming involved in economic development to protect their traditional way of life. Economic development takes training and money and the Dene lack experience and cited the experience encountered during their dealings with IPL; problems were encountered by the demands placed by IPL on northern businesses for performance bonds so that the Band was not able to compete on any contract requiring performance bonds.

Fred Andrew (Old Timer) noted that the land is the Dene's land, it is their blood and this is the reason why the Dene treasure and love it. He indicated he has worked all his life but still has no money and does not want this for the young. He asked that the Panel help the young. He told the Panel that he doesn't know what a "union" is and whatever it is, wants it kept down south because he doesn't understand it.

Victor Menacho (Hunter and Trapper, Fort Norman) said that seismic crews are at work on our land despite objections from the community. He noted that recently wildlife are dying for no apparent reason and their numbers are decreasing each year.

Bobby Clement Jr. (Band Manager/Chairman of Community Council, Fort Norman) noted the lack of experience the Dene have with large developments, the rush of Dene to get into business and their lack of business experience. Small businesses should be given ample time to get training in business matters so that they can participate fully and meaningfully in the development of the Mackenzie Valley. Money should be made available to bands immediately, rather than the six to seven month waiting period it takes to access it from government sources, and complained that the EDA which was due in April 1983 still has not materialized.

Horace Mendo (Hunter and Trapper, Fort Norman) noted that educated workers made in two days what it takes a seasonal worker two weeks to earn. Better education for the young, more communication between the companies and communities and between workers and employers, more training about alcohol, more counselling, a better understanding of the native way of doing things, and money to get into business are needed.

Fort Simpson, NWT
29 September 1983

Participants from Jean Marie River, Wrigley and Fort Simpson attended this community session.

The proponents noted:

- not enough oil and gas has been discovered to start production but industry has a very active exploration program and hopes to find enough oil soon;
- transportation systems may be either ice breaking tankers, pipeline or both. A pipeline would probably be located in the Mackenzie Valley. The size of the pipeline would depend on the amount of oil found and produced;
- it is unlikely that a pipeline from the Beaufort Sea will be built in the next three or four years;
- Fort Simpson could be affected by pipeline construction since it might be used as a supply site, maintenance area, and district office. If it became the regional center for the construction and operation of a pipeline twelve permanent jobs would be created;
- community concerns regarding the effects of construction workforce and social problems in Fort Simpson have been noted and industry will consult with the community;
- industry is willing to isolate construction camps away from communities; and
- the pipeline can be built so that local people can benefit economically while enjoying a clean environment and traditional activities.

Jim Antoine (Chief, Fort Simpson) stated that:

- development conflicts with Dene interests and claims to the land;
- many promises of economic benefits and jobs have been made but no help has been received to establish a base for traditional and cultural values;
- industry must recognize aboriginal rights to the land so the Dene can benefit from resource development;

- the Dene told Berger that they wanted no development before land claims were settled, however, his recommendation was not accepted by parliament;

- Dene have been bought off with the government's Norman Wells funds which has side tracked us from land claims. We are not satisfied with the employment, training and contract opportunities on the Norman Wells project and want a monitoring agency;

- we want maximum benefits through the settlement of land claims as soon as possible;

- the Mackenzie River pipeline crossings should be bridged over to protect water quality in case of an oil spill;

- the Mackenzie Valley communities have not experienced the full impacts of the first pipeline yet another is on its way;

- no royalties, benefits, oil or gas are going to the communities;

- training is needed to meet the true needs of the people;

- Fort Simpson is facing a housing shortage and social problems;

- the Dene are against the cruise missile testing program and want recognition as "masters in our own land";

- the Federal Government owes compensation and royalties for "the use of our land", we want greater political autonomy for the territories and land claims loans should be forgiveable; and

- native participation is needed on regulatory bodies controlling development.

(The Panel noted that most communities have asked for advanced training while Fort Simpson asks for basic job readiness.) Both types of training are needed, we send people to Yellowknife and Fort Smith and they feel they benefit. Berger's report was favourable to the Dene but the NEB did not deal with the political issues and didn't consider what the Dene said and the Norman Wells Project EARP did the same. The political issue is land claims and these cannot be disregarded. The Norman Wells Project went against the Dene and there was nothing they could do about it and it is jeopardizing our land claims. (The Panel

Chairman explained that the Panel's terms of reference do not permit them to examine the land claims issue itself, however, the Panel decided it does have a right to hear how land claims can be effected by development. The Panel asked if the town has enough water storage to live through an oil spill.) There is no alternative water supply. Fort Simpson would have to import fresh water from Liard if there was a spill. (The Panel asked how the fresh water supply would be protected in the case of an oil spill. The Proponents noted that major river crossing are protected by block valves. The Proponents are obliged to provide the Federal Government and the National Energy Board with oil spill contingency plans before the line goes into operation. The plan will state how leaks are detected, the volumes of leaks, what will happen to the oil and plans for containment, clean-up and disposal. IPL will have a large maintenance base in Fort Simpson where its emergency equipment will be stored. Oil spill effects on fresh water are still being studied.)

Jim Villeneuve (Mayor/Businessman, Fort Simpson) supported the Band's concerns, noting:

- no one really reads the 80 volumes and numerous papers covering the proposed developments for understanding, possibly only to find fault or to pick holes in them;

- the community has a great deal of difficulty coping with present services without having to contend with other developments in the making;

- funds promised prior to the Norman Wells expansion have not yet arrived;

- Fort Simpson is still experiencing problems from the project that never was, the Mackenzie Valley Pipeline project and they are now in the midst of the Norman Wells Project and are now being asked to consider another pipeline project. In anticipation of a Mackenzie Valley pipeline there was a high influx of people into Fort Simpson, services were expanded to meet a population of 5,000 (population is now 1,000) a new hospital was build, the RCMP detachment was increased to 20 members, new water/sewage systems were installed, housing sites and commercial areas were developed and all without extraordinary funding. GNWT are currently gathering data to see if we are indeed in an impact area. Did get extra funding this year because the community is bankrupt. Despite over-building there is an immediate need to provide housing for people in the community.

William Sake (Jean Marie River) wants to trap on the pipeline right-of-way and asked what distance from the pipeline right-of-way could a fire be built. (The Panel also asked for details of compensation for hunters and trappers where the pipeline right-of-way crosses trapper's lines. IPL will compensate hunters and trappers for damages as a result of the pipeline crossing traplines. IPL encourages resource harvesting on the right-of-way. IPL has produced a draft policy for compensation for people to comment upon as has the GNWT. Fires may be built anywhere on the pipeline right-of-way except for fenced in areas such as pump stations, valve closing areas etc.)

John McArdy (Director, Alcohol/Drug Abuse Program, Fort Simpson) asked what precautions IPL are taking in relation to alcohol and drug problems. (IPL indicated many things are being done e.g., camps are isolated, communication between the camps and the communities are isolated, rules for camps such as restrictive access and "dry" have been established, and specialized training has been given to supervisors to detect drug users.)

Don Antoine (Citizen) indicated:

- oil spills will destroy food and wildlife, and this destruction must be considered permanent;
- Beaufort Sea drilling should be postponed or delayed due to the possibility of pollution;
- the Dene know the land is "our body and the rivers are our blood" and we do not want another pipeline;
- the current environmental concerns of government, listed in the EIS guidelines, are useless since the terms "minimize" "adequate" "effective" give the go ahead to industry when government has no idea of the possible extent of damage;
- settle land claims now;
- develop a new national energy program; and
- there are too many decisions being made by outsiders, the Dene want the opportunity of choice.

Mr. Antoine read into the record motion no. 24 made during the Dene Assembly at Fort Resolution, 6-12 September 1983, concerning the Dene/Metis/Esso joint venture company, Shetah Drilling, and questioned the oil spill prevention system at the proposed river crossings. (IPL noted that safety valves are placed 20 miles apart, 23 in all, which

are remotely operated from Norman Wells. Additionally, there are check valves at the river crossings. In the event of an oil spill or drop in pressure these check valves will automatically close in 2 1/2 to 3 minutes. Oil spill contingency plans will be sent to the Dene Nation for their comments.)

Kevin Menichoche (Citizen) read the Dene declaration into the record.

Philip Blake (Citizen) told the Panel that the people have chosen their way of life and the pipeline will go through despite what the people say.

Bill Lafferty (Citizen, retired MLA) spoke at length noting:

- many concerns have been expressed about the environment but very few have been expressed for humans;
- people do not have the education to understand all that is happening around them;
- help is needed for Indians to achieve a higher level of education; and
- the pipeline is the safest form of transportation.

Albertine Rohd (Métis Local, Fort Simpson) stated:

- we are told not to worry but we have never seen a pipeline or a river crossing before and many things concern us;
- not many people are hired locally though we do have a very high expectation for employment;
- the young need to be employed and given on-the-job training; and
- the housing situation in Fort Simpson is very poor and the cost of living is very high.

Betty Menachoche (Panel Interpreter/Citizen) indicated:

- it is mind boggling to see a dream become a reality, referring to the construction of a pipeline;
- natives are loosing hope with this the third pipeline hearing;
- native people are in a bad socio-economic position;

- there is much competition for a few jobs,we end up fighting for jobs and on welfare; and
- since the Berger Inquiry people have been putting their lives in order, there is a sense of control all over the north.

Pond Inlet, N.W.T.
13 October 1983

The Panel Chairman called the meeting to order at 19:00 hours, explained the purpose of the Panel's work and gave a short review of the hearings in the western Arctic. He said Pond Inlet is the appropriate place to start because it is the home of a respected member of the Panel, Mr. Titus Allooloo. He told the audience that it is the Panel's duty to write a final report containing the Panel's conclusions and to present recommendations to the government, in particular, those environmental, social and economic concerns of the people. He called on the Proponents to make their presentation.

The Proponents gave a history of industry's efforts in the Arctic and reviewed those concerns which had been brought to their attention by the community of Pond Inlet. These concerns are:

- consultation
- tankers
- oil spills
- icebreaking
- noise
- hunting and fishing
- environmental studies
- jobs and training
- social concerns

They noted that industry is very aware of the importance of the Pond Inlet area, the importance of Narwhal to the Inuit, of beluga to the food chain and of udjuk, ringed seals, polar bears and murres. Industry respects these concerns and will work on them with regard to environmental and social concerns with the input of the community of Pond Inlet. Icebreaking and noise have also been studied, with experiments carried out this year by the M/V "Arctic" and the John A. MacDonald (CCG). He stated that white whales had been frightened by the ships, however they returned to the area about 30 hours later. Narwhals stayed quietly near the ship. Ships tracks, the crossing of these on foot and the effects of the tracks on ringed seals and udjuk were compared to the observations made during the experiment in the Beaufort Sea. There is a limited number of jobs related to work on icebreaking tankers, however, should a pipeline as required by the A.P.P. and Pan Arctic become a reality then jobs may become available for the construction and operations of these projects. The responsibility for oil spill and clean-ups is shared with the Canadian Coast Guard. The proponents feel that the interests of the Inuit can be maintained and that they will gain from development.

Dorothee Komangapik told the Panel that they have been told since 1978 they would benefit from the shipment of oil and gas from the Beaufort Sea. She wants to know what these special benefits are, how they are to receive them, how the information concerning the benefits will be communicated. Meetings held in the past concerning the future were full of confrontation and distrust. Too many issues were discussed at the same time resulting in confusion. They require time to consider the issues. She stated that there is a lack of specific information in the EIS and that it is unfair to ask municipal representatives for opinions and decisions on long range developments. She asked for improved communications so that the citizens can voice their decisions not by proxy but by referendum.

Maggie Allooloo, Sam Oomik with Jeassee Nuturak Jr. (Development Review Committee - Submission BE-32) made their presentation to the Panel:

- development of non-renewable resources will undoubtedly become a reality one day, it must be safe and benefit northerners at their pace;

- educational standards/school systems are behind those of the south;

- don't want industrial development until Inuit are better educated. More government money and effort for education is needed in areas such as community high schools, technical schools and a university in the eastern Arctic. These will ensure children will remain within the community and learn their cultural and moral values;

- don't take non-renewable resources until the people can play a meaningful role in development;

- development is being pushed too fast. Many changes in the past twenty years have disrupted traditional lifestyles with bad effects;

- the Inuit want to understand development so they can deal with it wisely;
- hunting and the environment are important to the Inuit culture. Industry might destroy the environment and the culture along with it;
- realize that industrial development may proceed whether the Inuit want it or not;
- the Inuit want to know "what's in it for us" e.g. improved economy, air services, job creation;
- the Beaufort Sea proposal offers little to Pond Inlet. The social impact assessment says "there is a variety of other employment opportunities at Polaris Mines, Panarctic, Nanisivik Mines." There are many unemployed and more looking for jobs every year;
- the Proponents cite problems e.g. the cost of transportation of northern workers, low education levels make training difficult;
- these make it difficult to see development in a favourable light;

The Panel Chairman asked for a summary of what benefits might be derived from the Beaufort developments. The Proponents said that much thought has been given to the question. There appears to be some years before development may proceed if approved, so there is time to talk about "what's in it for us". Most work will be in the Beaufort Sea area where people want jobs and other benefits. It is in their backyard and they want the opportunity to participate. Job opportunities along the shipping route are limited. There are, however, opportunities in environmental research around Pond Inlet and Lancaster Sound. The Proponents are trying hard to get northerners interested in environmental programs. There may also be job opportunities on ships provided the tanker route is approved. These jobs require much training and crews will transfer (sign - on) at main ports in the Beaufort Sea or in, possibly, Nova Scotia. There may be other opportunities in the north with employment in weather and navigational aid stations. These are several years away so there is time to exchange ideas on how the eastern Arctic people can become involved. There were problems in the past and people expended great efforts in opposing development but this will not prepare the people if approval is granted. People are thinking of how to participate in development and this is a welcome and positive step.

(The Panel (Stutter) noted that the Committee places importance on educational upgrading, grade 12 in the community so that the children can enjoy family life and receive the influence of their parents, society and culture, the establishment of technical schools and a university in the eastern Arctic. Where should these institutions be established, bearing in mind that the family will be split for these.) Maggie Allooloo replied they should be established either at Nanisivik, Frobisher Bay or Pond Inlet for the university. Technical schools can be elsewhere in the Baffin Region, not in Fort Smith. Children will have completed grade 12 in the communities before leaving home to attend further education institutions.

Jamesie (Citizen) gave an overview of his employment history with the oil industry. He felt that despite the training he had taken as a heavy equipment operator he and his colleagues were only given work as janitors and other menial tasks. He suggested that in the early development stages fantastic promises are made yet if the proposal goes through the community will not get employment or economic benefits and he has a vision that it will also affect the animals.

(The Panel (Lueck) asked for a summary of other benefits the community considered should come to Pond Inlet.) Sangroyak (Mayor, Pond Inlet) suggested that the Canadian government has total control of development, that the Inuit and resources are dealt with at the same time, however, they are on their way to their own government. There will be changes.

Sarah (Citizen) told the Panel the Inuit had come from Asia, had taken many years to adapt to a hard life. Until 20 years ago it was quiet and peaceful with only RCMP, missionaries and traders around. There were no educators or administrators Rapid development has occurred in the last 20 years. The Inuit now understand education and have adapted new lifestyles. There is more harm coming to the north. If development starts it will be a long struggle for all others. The Inuit have to adapt to new customs and to catch up. The Inuit need education. This will cost much money.

Maggie Allooloo wanted clarification on oil spills statistics i.e. 85 barrels spilled for each 1 million transported. (The Proponents explained that "risk" is expressed as the number spilled as against the number carried. There are many ways of expressing the risk. A spill could occur anywhere between home port and the discharge port e.g. when loading, on passage or at the discharge point.

There was much discussion of IBT impacts on Lancaster Sound, its ice patterns and strong currents. Ice crossing experiments conducted in late June/early July were discussed. Although the tracks could be crossed they did not refreeze. (The Proponents, in response to a question on how the IBT could avoid seal breathing holes, stated that ships would prefer to sail in the waters of Lancaster Sound which are open most of the year particularly November through to February and in this way avoid the birth lairs. Experience in the Beaufort Sea shows that icebreakers do not appear to disturb animals in open water.)

Lucien Okalianok (BRIA Spokesman) noted that the studies are not yet complete and told the Panel that Igloolik has sighted Narwhal and Bowheads for the first time, the population of other animals is increasing and suggested that this is caused by the increase of marine traffic in other areas. There is a need to catch up on education. Development should wait until they do catch up so that the Inuit get the benefits and jobs rather than the skilled jobs going to southerners. He cautioned that there would be an impact on wildlife and the Inuit would loose their country food. He complained that the EIS does not indicate what would go ahead in the future and recommended that there be a slowdown in any development so that the Inuit can prepare for the whole development of the eastern arctic region.

Unions seem to make it impossible for northerns to get jobs and asked what the companies are doing about this situation. (The Proponents noted that so far no unions have been involved in the Esso operation in the Beaufort Sea. While at Norman Wells there are two major unionized contractors. There is a high percentage of northerners involved in the project and about half of all jobs are staffed by northerners. The unions do understand if they work in the north they must involve northerners. The Panel Chairman intervened at this juncture and pointed out that to his knowledge some 15% of the work force are not native northerners and that it would be timely to define a northerner. Esso uses principal residence, Dome uses 2 years residency and Gulf uses 1 year residency. Hiring is first local, then regional, then Canada wide.

Lucien commented on the effects of noise and oil spills on the wildlife and asked for details on compensation. (The Proponents noted that industry and government are working hard to reduce the possibility of accidents. Confident by the time IBT's approved and with the help of HTA's will know how to minimize effects. They will compensate for damage caused by oil spills as is required by law.)

Bob James (Citizen) asked if Proponents receive approval would they guarantee the price of groceries in Pond Inlet at the same price as in the south. Wants a better education for the people. (The Proponents understand the concern but it is not within their jurisdiction - the government has the control.)

Elijah Erkloo (MLA Candidate) told the Panel that the Inuit have not changed their tune There will be no development until land claims settled. There will be no resource development but the Inuit do need things like Skidoos. The Panel has heard the reasons for no development. The Development Review Committee is so preoccupied it cannot look for alternatives such as fishing and tourism. They are however still talking. He noted that the Federal Government had agreed to divide the territories to suit Inuit needs. Does not want non-renewable resource development at this time. Questioned the track crossing experiments conducted 2 years ago at Glace Bay. (The Proponents did not know of this experiment.)

Annie Eenookoolook (Citizen) remarked that when government first arrived we were told to move into good houses, we were forced to move, forced to accept the proposals of very good accommodation, told there would be no more sickness but our health has not changed. Our children were told to go to school even though they were hunters. We tried to teach them to live like Inuit now they are living like whites. Education is good for Inuit, we accept this, but some drop out, they don't know their culture or white culture, so we say learn Inuit culture at school. This is the reason we are objecting. You only give us the good examples of your proposals. I feel the benefits you tell us about will not be so good in the future. Scared of oil spills, so don't want activities in this region. We will never be happy in the future.

Paneeloo (Citizen) expressed concern about the wildlife which is the Inuit livelihood, their welfare. The ships will distrub the seal birth lairs. (The Proponents estimate that 1% of ringed seal pups might be killed at 0-6 weeks old. They can take to the water after 6 weeks. The majority of pups are born in areas where IBT's cannot travel.)

Noel MacDermit (School Principal) expressed many concerns, particularly on oil spills, asked what experience the Proponents had in cleaning up massive or large scale spills. (The Proponents replied that none have been attributable to industry in the Arctic and hope not to have one. They learned from the "Amaco Cadiz", Persian Gulf and Gulf of Mexico incidents. The proponents are in foreground of cleanup technology.)

Jemmima Nuturak (Citizen) noted the Inuit are running their own affairs, work at jobs they want and are preparing for the future. They are not happy with the proposals. Wildlife is being driven away to Igloolik and Gjoa Haven. This is why we oppose. Soon there will be no animals. Even icebergs won't stay in dirty water. We are worried about the future. If development goes ahead people will still want country food.

Joanasee Atadjuat (Citizen) doesn't want to see the transportation of oil. If present low levels of education stay, it will be impossible to find proper employment. If education remains low we will be treated like a minority.

Jobie Nuturak (Citizen) questioned the Proponents about ship tracks, avoidance of seal birth lairs, and, recreational hunters. (The Proponents replied that they can't avoid every birth lair but with the advice of HTA's could plot a suitable course. Recreational hunter is a term used by sociologists to describe someone who hunts for the fun of it. It is understood that hunting is an important part of the Inuit culture.)

There was considerable discussion on jobs on IBT's and required job entry levels. (The Proponents maintained the crew must be well trained and experienced. Courses in seamanship are available through Thebacha College and the government sets the entrance requirements.)

Paul Oidlout (Citizen) told the Panel that he spends $1,500 dollars each month on food and he must take country food to supplement his family's diet. Inflation is high. He asked if there will be compensation for oil spill damage. Compensation should be in the range of $200 per child in order to buy groceries or even $500 for a family because they hunt to supplement store bought food.

Elijah Panipkoocho asked about the effects of a ship passing through Lancaster Sound on wild life. (The Proponents noted that information is contained in the EIS and supplementary reports. Most times of the year seals are not hurt or killed. Not sure yet of the effects of noise on seals though lots of them behind ships in the ice. After the A.P.P. the Panel caused the Environmental Advisory Committee on arctic marine transportation to be set up to advise the Canadian Coast Guard on factors to select travel routes.)

Arctic Bay, N.W.T.
October 14, 1983

The Panel Chairman introduced his colleagues, explained the purpose of the Panel, and called on the proponents to make their presentation.

The proponents noted that there were quite a few local residents working at Nanisivik. The proponents contracted with a local company "Abatuk" to conduct environmental studies. Many locals are interested in jobs and training and may benefit from tankers. The proponents are aware of the importance of the Lancaster Sound marine life to the people of Arctic Bay and wish to ensure that all wildlife important to the communities continue to do well. The environment can be protected though more environmental research is needed and this will provide an opportunity for local people to participate. There may be other opportunities for local people to work with the government, Canadian Coast Guard Service and industry in oil spill contingency planning and response, on tankers, at base facilities, and with navigational aids and weather stations.

Glen Williams (Resource Development Committee, Arctic Bay) listed the following items of concern with year-round shipping:

- Ring seals are the most important and most harvested species. Surveys have been conducted in the spring but no one has ascertained their distribution during the rest of the year, making predictions difficult to make;

- Udjuk are found in land fast ice but fast ice is rare in Lancaster Sound;

- Arctic Cod are identified as a food for mammals. Their spawning areas haven't been identified and considerable damage from oil spills is anticipated;

- Noise effects on whales, in ice and in open water, have been briefly examined and needs more investigation. Seals use sonar to find breeding holes in the dark so ship noise may impede their ability to find their holes;

- Ice-breaker effects on multi-year ice have not been addressed satisfactorily. This could hamper hunting in Admiralty Inlet and cause problems crossing ship tracks. Bow-wave and ship wash generated water pressure could flood birth lairs causing seal pups to freeze;

- Dispersants and igniters may not work on oil spills in moving ice and in open water . Spills may be spread by winds, currents and moving ice;

- Need to identify what events qualify for compensation and plan how, why and who gets it;

- The environment is the base of the Inuit culture and economy, and, must be built upon and maintained;

- We are asked to consider new developments which pose risks to the environment and to the economy. These risks must be weighed against the benefits e.g. jobs, careers, life style, and duration;

- There have been many problems with the Nanisivik and Panarctic employment;

- There are no initiatives for furthering education since school drop-outs with grade six and eight are making fifteen hundred dollars every two weeks. They will not now work for less. There are no training programs, other than heavy equipment operators, available to them;

- There are no opportunities for women;

- There are no opportunities for promotion;

- We want to develop at our pace in order to meet our own goals;

- Land claims are to be settled before development. This will ensure that our goals are met. The risk is not worth the benefits we see; and,

- A pipeline is more acceptable to us than tankers.

The Panel requested more information on multi-year ice moving into Admiralty Inlet. (The proponents addressed this in "Discussion Paper No. 3". Admiralty Inlet is land fast each winter while Lancaster Sound is not. Lancaster Sound breaks up sooner in the spring. It is difficult to understand how multi-year ice gets into the inlet, except in the open water seasons, and don't see how ships would influence this.)

The Panel Chairman asked the proponents to describe their compensation policy. (The proponents indicated there appear to be three questions; when to compensate, when is there damage, how to compensate. The proponents position is the same as the GNWT's, there will be negotiations between the effected party and the oil company. If damage is caused by the proponents then direct negotiations are best with arbitration if necessary. Industry is required by the government and by law to compensate for losses and with particular respect to aboriginal people for losses in hunting, fishing and gathering opportunities.)

The Panel asked about oil spill priority areas. (The proponents explained these are areas where they will attempt to minimize damage of oil spills. The Parry Channel area, including Lancaster Sound, is where the companies have tried to identify "Priority Areas". Six years ago EPS prepared maps showing areas considered important. The APP-EARP Panel, with government and communities, prepared a "Route Analysis" to also identify priority areas. The proponents EIS also tried to identify areas of great importance.
Additionally, the proponents during the past two years have made video tapes, from aircraft, all along the shipping corridor. All these can be used to priorize areas in the event of an oil spill.)

Apagootak doesn't want drilling or pipelines because of possible effects of an oil spill on wildlife. Compensation should be guaranteed.

Charlie Inurak noted the EIS does not say what is beneath the ice during the winter when there is year-round shipping. The hunters know. It is where crustaceans, shrimps and cod grow and feed. If there is an oil spill these will be killed. Inuit need employment and time off for hunting - some Inuit may have drinking problems if there is no time off which may lead to family breakup. More studies in the social areas are needed.

He spoke at length on the following:

- small mammals beneath the ice may be destroyed by IBTs;
- shipping will have an impact on the environment if the project goes ahead;
- oil spill impacts will be massive and will destroy mammals, oil will carry far because Lancaster Sound currents are strong;
- low education levels make it impossible for Inuit to fully participate;
- wants to get control of these matters so that Inuit can get on with major developments;
- cannot accept the proposal because of concerns such as education, land claims - the proponents will have an opportunity in the future. This will allow time for Inuit to catch up and to prepare.

The Department of Economic Development says people must be employed, but feels it strange that the current housing project in Arctic Bay employs not one Inuk.

Complained about the Inuit's lack of input into the functions of the oil companies. (The proponents noted that during the past three years company representatives have made numerous visits to all communities which may be effected by IBT traffic to explain intentions and to better understand Inuit concerns. Their companies have developed programs to evaluate Inuit concerns with Inuit help.) Complained of possible difficulties he might encounter if he tried to cross IBT tracks in the Lancaster Sound ice fields.

Jim McIver closely questioned the proponents on the registration, maning and promotion opportunities on the proposed Ice Breaking Tankers (IBT). He wanted to know how an Inuk could become an officer and demanded to know the reason for hiring foreign officers.
The proponents follow CEIC guidelines for hiring, CCG guidelines for the training and promotion of ship's personnel, and, only employed foreign officers who had special skills not available in Canada. He cited the chartering of a Dutch dredge, because there is no like vessel registered in Canada and the crew have skills and experience acquired elsewhere in the world, and, the hiring of a foreign captain to command a bulk carrier, because there were no Canadian officers with the requisite experience. It is the proponent's intention to man IBTs with experienced crews with at least ten years Beaufort Sea experience in tankers and in ice. Personnel with this experience are very scarce and the proponents are taking steps to train Canadian crews on Canadian registered ships in the Beaufort Sea.)

(The Panel gave the audience a summary of those concerns expressed to the Panel by the people of the Beaufort Sea area. These are:

- ship movements through the ice during seal hunting.
- possible impacts on whales and whaling.
- possible oil spills and resulting effects on wildlife.
- possible effects on hunting opportunities because of ship's passage through ice.
- opportunities that might be available - jobs, etc.
- education - not sufficient, technical training to qualify for jobs required.
- social impact of employment in the communities.
- alcohol problems.
- money management training.

In the Mackenzie Valley the Dene had the following concerns:

- effects of a pipeline if built.
- unions and people getting jobs.
- compensation.

- the employee entry level requirements of oil companies.
- definition of a northerner.
- plus all of the other mentioned above.

In the Valley, people thought IBTs were good while those in the Beaufort Sea thought a pipeline was acceptable. People want to enter into business, gain contracts and establish good job opportunities for themselves and others.)

Frank Pearce (Hamlet Manager) suggested to the Panel that there should be more research into potential environmental impacts in Lancaster Sound. The oil companies must convince the community that they can carry out the responsibilities of development but the proponents have not yet convinced the community hence the EARP hearings.

Leon Arktarvik told the Panel he had worked on a ship during the summer and had seen that seals on the ice "walk away" from the noise of the ship.

Levi Kalluk (Mayor, Arctic Bay) expressed concern for the environment and the wildlife in Lancaster Sound. Told the Panel everyone thought the same. The Inuit depend on wildlife for food. The project should be delayed.

Moses Onukuluk (Member, Development Review Committee) noted:

- Lancaster Sound and its wildlife are main concerns;
- believes Inuit will not have full participation in opportunities arising from a project;
- although there may be jobs, they will end up as dishwashers;
- delay the project and consider it in the future.

Leah Levi spoke at length on the size of the IBT, noise scaring the seals, frightening of animals, causing them to move to other parts of the Arctic. Slow down development improve the education system, allow the Inuit to catch up and participate in the future.

Lazarus Owyah said if the government approves the proposal they will not participate but if it is disapproved it will show Inuit can be strong. "You listen to us now but when activities start our recommendations are put aside".

Axago Shappa wanted to know if there is an alternative route or plan to move oil other than through the Lancaster Sound. Suggested that oil be shipped through Alaska. The people of the NWT must be given the opportunity to plan alternate shipping routes. The Panel must give consideration to the strong and serious concerns of the Inuit because the oil companies have a tendency of expressing only the positive factors in order to achieve their own goals. (The proponents commented that there is no plan to ship oil around Alaska. A committee has been formed to help select the best possible routes through Lancaster Sound. John Amagoalik (ITC) and B. Hazlen (LIA) are full members.)

Jackoona pointed out the dependance the Inuit have on country food.

Davik Kulluk asked the Panel to consider the noise factor of the IBTs in full operation. He suggested that wildlife is already driven off to other communities by ship noise.

Kik Shappa noted compensation for oil spill disasters must include the value of country food and clothing from animals. Also asked if compensation can be paid for loss of Inuit culture.

It is important to talk about all of these things now and not after a disaster occurs. The Panel and oil companies and those with the money must consider compensation.

Frank Pearce expressed suspicion of southerners and their attitudes to people in the North, and is worried how the southerners regard the northerners. Points out that Lancaster Sound is part of the Inuit heritage just as Banff is part of the South. The people believe in the Lancaster Sound area and any damage is viewed with a psychological sense of loss.

Leon Manitarvik indicated concern that western and eastern Arctic communities have not made agreements or come to understandings on the routings of IBTs. (The Panel noted that minutes of the western Arctic community sessions are available and these may be useful in understanding their concerns. The Panel is aware of their views and will take full consideration of them.)

Qamanirq illustrated the strong steady currents of Lancaster Sound and voiced great concern at the possibility of an oil spill in the area and its potential effects on communities such as Igloolik. Complained that experience has shown that if the Inuit rush into anything it breaks down. They also risk mistakes during rapid development.

Peter Arnatsiaq (Igloolik) noted they are observing more whales (bowhead and killer) than ever before at Agu Bay. Worried that oil spills will adversely effect all species of wildlife because the Inuit live on animals.

Resolute , N.W.T.
18 October 1983

The Panel Chairman welcomed the audience, explained the Panel's mandate, introduced the panel and asked the proponents to make a presentation.

The proponents noted that not sufficient reserves have yet been discovered to merit going to production. Two transportation systems are under consideration, a pipeline and I.B.T's. The proponents are aware of the importance of wildlife to the people, have conducted experiments on ship track crossings with representatives of Resolute, Arctic Bay and Grise Fiord present and observed that the tracks were quickly and safely crossed. More research needs to be conducted on under-water noise. Pond Inlet asked, "what's in it for us" and the proponents foresee people/job opportunities in a wide variety of environmental studies, as crew members of I.B.T.'s and as members of an oil-spill response team.

Simeone Amagoalik (BRIA) noted the ship track crossing experiments were conducted in fair weather. (The proponents explained the tests were in October, March and June and were conducted in windy conditions which made it difficult to travel but helped fill in cracks and make the crossings smoother. Drifting snow sometimes covers and insulates a crack which if not tested may make it dangerous to cross.) With all the proposed tanker traffic there is bound to be an accident. (The proponents have never publicly claimed the proposed ships would be unsinkable but do claim they will be the safest ever built. There is always the possibility of an oil spill but much effort has been put into studies, designs etc. in order to prevent environmental damage.)

Philip Nungak (Resolute) asked how will the ship see a hunter during poor or stormy weather or at night. (The proponent's ships will make regular radio announcements, will lend radios to people who make crossings and will lend transponders to be fitted on skidoos. The ship will be able to detect the transponders and know where the hunters are.) Who pays compensation if a hunter is killed. (The proponents would pay compensation but it is unlikely that such an accident would occur. People camped on the ice would feel the vibration caused by the approaching ship. Also, the ship will be fitted with a very powerful searchlight and can be seen for miles and the ship can stop very quickly in ice.)

Erkalook expressed concern that no studies or research has been conducted to locate and identify the number of seal birth lairs along the route. Hunting is a part of life and pleasure, it is not done for money. The ship will break ice all along the route and cause other

"leads" to open up. Request IBT's restrict their travel to one track year-round. Prefer not to see any IBT's in the winter because Inuit have to use the ice for travel to hunting grounds.

Ludy Pudluk (MLA/GNWT) asked what kind of employment the project will create for Inuit. (The proponents hope to employ 10 trained northerners on each IBT crew (1 crew on/1 off = 20 employees) plus 4 or 5 positions for those interested and qualified for training as ships officers.) Wildlife may have been driven off by the noise of hydrocarbon exploration. Don't want to see this happen if the proposed IBT's go through. Wildlife is the Inuit subsistence and is easily damaged by accidents such as oil spills. The only time the proposal would be acceptable is with a guarantee of no oil-spills.

Imooshie Nutarajuk (Grise Fiord) requested good management of the land and no changes to the environment because Lancaster Sound has abundant wildlife which the Inuit use for food and clothing.

Walter Audla (Resolute) suggested that despite the promises of employment by Polaris and Cominco there is still no work for the young. The same will happen when the proponents reach full oil production. An oil spill could ruin the wildlife forever and if this occurs the proponents should compensate the Inuit for the rest of their lives; $40,000 to $60,000 per year would be appropriate compensation.

Pangnirtung, N.W.T.
22 October 1983

The afternoon meeting was cancelled because of poor attendance.

The Panel Chairman welcomed the audience to the evening session and noted that representatives from Broughton Island and Clyde River were in attendance. Other communities visited by the Panel expressed concerns about the possibilities of oil spills, noise of ice breaking scaring the animals people depend on, the right education and training for jobs on ships and in the Beaufort Sea, social problems, alcohol problems, and rotational work program effects on the family.

David Ikarialuk (Clyde River) asked if oil spills will effect the eastern Arctic and if the currents have been studied. An agreement should be made to have Inuit monitors placed on board IBT's to ascertain the effects on mammals. (The proponents noted that currents are being studied by the government and the oil companies. One IBT will undergo sea trials in the eastern Arctic and local people will be welcomed to see for themselves how things work. An environmental monitor will be carried on the ship and there will be opportunities for eastern Arctic people to become monitors.) The Inuit have to do the studies, plan them and carry them out. The Proponents are using resources which are part of the livelihood of the people and they are concerned about the wildlife and getting the best jobs. While the Inuit do not agree with the oil companies all the time, committees should be set up to deal with gas and oil developments in the Beaufort Sea and this should be carried out by community residents. (The proponents share the concerns of the Inuit. There are two ways they can participate in the design and implementation of environmental studies 1) the Environmental Advisory Committee to the Canadian Coast Guard, of which ITC and LIA are members, which recommends studies to be carried out by government and industry, and 2) applying to the Environmental Studies Revolving Fund, funded by industry.)

Norman Koomwartok (Pangnirtung) expressed concern about whales and seals who travel long distances and asked about oil spill clean-up equipment in ice, job training and funding for training. (The proponents noted that equipment is presently available in the Beaufort Sea area and at St. Johns', and it is proposed to fully equip the tankers. Studies show oil under ice is frozen and collects at the surface in spring at which time it is cleaned up. If the project develops the company will pursue recruitment vigorously. Education is something the companies cannot do; it is the government's responsibility, and is up to the individual to show initiative and to take training. Industry does training on-the-job after the employee is on the job. Tuk Tech is available and appears to be under used.)

Stephen Osler (Pangnirtung) and Koonark Pudloo (Clyde River) requested details on the IBT's. (The proponents noted that no IBT's have been built yet, the companies are gaining much knowledge from their operations in the Beaufort Sea and believe the proposed IBT's will be the most capable ships in the world. The earliest they will be in operation could be 1988, depending on project approvals and finding enough oil. The Class 10 IBT's will be able to move through ice 10 feet thick at 3 knots and ram through ice ridges up to 75 feet thick. The number of vessels will depend on the amount of oil exported via ship or by pipeline. Predictions of up to 26 ships have been made).

Iola Metuq (Mayor, Pangnirtung) suggested that sufficient oil has not been found to commence production and asked how much is required and if it's needed. Suggested the project go at a slow pace, because there is a need to survey the wildlife upon which the Inuit survive, and recommended that the IBT's only travel in the summer because of winter ice conditions. (The proponents indicated the tankers will probably go into service in 1988 with as many as 26 by 2000, assuming that all oil goes by tanker. A year round operation is required to make the project economical. The Government of Canada does not want to be dependent on others for oil and so needs a secure supply of oil when the western Canada reserves are declining. There is a need to prove up Beaufort Sea supplies, and if they are sufficient the government will have to decide whether to develop east coast, Beaufort Sea or oil sands.) The Inuit are not in total opposition, they are concerned about possible damage to the environment. All communities have similar concerns for wildlife and for their children, and hope that industry and communities can work together to solve problems.

Jim Currie (Hamlet Manager, Broughton Island) asked if jobs are conditional on tankers. When will the oil companies start training people for these jobs. Is the project worth the expense. Oil spill clean-ups and the effects of noise on animals are concerns, and there have been no studies so it may take years to get answers. (The proponents noted there are not a lot of jobs related to tankers. Western Arctic people also want jobs, and the company hires locally first, then regionally, and nationally. Jobs include assistant cooks and assistant stewards which require less than grade 10, seaman and oilers which require at least grade 10, and ships officers which require grade 12. If tankers are used, each ship will create seventy jobs to man one ship full-time. All these positions will be open to qualified northerners but not all northerners are qualified. Northerners have to have the initiative to finish school, their training and to gain experience at sea.)

David Arnaquq (Clyde River) noted that Inuktitut cannot be used on the job. (The proponents indicated there are several hundred Inuit working in the Beaufort Sea and many speak Inuktitut at work though it is important to understand and communicate in English.) The Nunavut Constitutional Forum stated last week that Inuit would only need to work in the future in Inuktitut. (The proponents noted the NCF proposed working in Inuktitut. The issue deals with political self-control, division of the N.W.T. and land claims, resource control and development corporations.)

Oil spills will damage the wildlife and the livelihood of the people in which case compensation will be necessary. More community consultation is needed before the tankers sail. (The proponents indicated that they are also concerned about oil spills though these are not likely. If they occur compensation will be paid as required by law. Will continue to visit the community and communicate as before.)

Paul Marshall (Hamlet Manager, a new northerner) spoke at very great length on development, ownership of resources, jobs, royalties, revenues, communication of studies to the people, regulations, possible changes in federal and territorial governments, with Nunavut, the mandate of the EARP Panel, the disappointing finds in the Beaufort Sea, oil spills and clean-ups, ice-breakers, fog, ice, poor studies, drilling in the Lancaster Sound, lack of say in affairs, the need for further hearings on the Beaufort Sea, energy policy, regional distinctions, loss of culture, Inuit representation on the EARP Panel, sponsorship for technical training, lack of continuity of planning, competition for community leadership, protection of Inuit culture, land claims, and monitoring/prevention systems.

Yaloo Kooneeliusie (Broughton Island) discussed oil damage to polar bears and seals. (The proponents indicated polar bears will be airlifted away from the spill and oil washes quickly off seals.)

Steve Audlakiak (Broughton Island) asked if the proponents intend to file an application to go through the Davis Strait area, clearly indicating the route for ships. (The proponents indicated it will be several years yet before this happens but the companies will make a clear application. They will make many visits to the communities to ensure that it won't be a surprise when the oil companies apply.)

Frobisher Bay, N.W.T.
24 October 1983

The afternoon meeting was cancelled on account of poor attendance.

The Panel Chairman welcomed the audience to the evening session, explained the Panels mandate and asked the proponents to make their presentation.

The proponents summarized:

- o 1988 appears to be the earliest date to move oil from Beaufort Sea however not enough oil has been found so far to develop a field;
- o Dome is trying to find money to finance the construction of a class 10 IBT; and
- o Local concerns include jobs and training, social issues, tankers and oil spills, hunting and fishing.

Denis Bradette (BRIA) wanted to know the reaction of the proponents to Land Claim Negotiations, the training needs of the people and the need for more time for the people to understand the proposal. (The proponents support land claims which must be resolved by the government. Would like more and better training but these are also government responsibilities. The proponents actively encourage children to stay in school to finish their education and training. It will be five years before IBT's travel through the Davis Strait. The proponents have in-the-house training programs. These are offered in the Beaufort Sea to their employees where there are five hundred on the payroll.)

Christine Guenette(BRIA) asked how the proponents propose to avoid disturbing migrating beluga and narwhal along the shipping route. (The proponents indicated the noise effect appears to be limited, it is fairly localized and of short duration. The advanced design of the propellers will also lessen the noise. Still, ship noise may frighten the animals but narwhals return quickly to the area while belugas may take some thirty hours. Indications in the Beaufort Sea are that beluga quickly habituate to large vessel noise, they do, however, recognize small boat noise and flee. The Panel Chairman commented that there is uncertainty and a need to prove the effects of noise. Which factors were more important than the disturbance of marine animals. (The proponents are making every reasonable effort to prevent this by researching the design of the IBT in order to avoid accidents. Industry and Government are addressing environmental factors. ITC and LIA have active memberships on the Canadian Coast Guard Environmental Advisory Committee.)

Tom Nesbitt (BRIA) added that the ship routing may affect beluga and narwhal over-wintering off the Greenland coast.

The Panel inquired why the proponents are proposing tankers. (The proponents noted that most reserves are offshore in the Beaufort Sea, in 75 to 100 foot waters, which indicates production using tankers. Tarsiut has 350 billion barrels recoverable oil but the economics of Arctic development dictate larger reserves must be found. There are no problems with pipeline gathering systems. These will be used in shallow waters from 0 feet to 20 feet deep and will be buried in trenches. An alternative to gathering lines is to use a shuttle tanker service between production areas and onshore facilities.)

Ian McNeil (CBC) asked if the proponents saw a conflict of interest in the information they gathered and used for their purposes. (The proponents indicated information gathered is to ensure the environment is protected and they feel comfortable with the work done so far. All work is regulated by the federal and NWT governments. The proponents have contributed heavily to the BRIA harvesting project. Some 750 million dollars has been spent on Arctic research and this information has been presented to the Panel. All of the information in the EIS has been made available. The Panel Chairman noted this information has been carefully scrutinized at all sessions to date and will also be intensively examined at the Inuvik, Yellowknife and Ottawa General Sessions.)

Maggie Allooloo (Pond Inlet) stressed the importance of education in the North and the need for more before industrial development comes. Nanisivik Mine should be closed down, because it has made it very difficult for people to get jobs and training, and reopened by the government as an "Education City".

Rita Pudluk (Frobisher Bay) spoke on wildlife and research programs and asked what action will be taken if wildlife is driven away since store food is very expensive and non-employed Inuit will suffer, will compensation be paid. (The proponents noted research is being done by the federal and NWT governments. The proponents also seek advice from local people. When the companies fund a project they insist that locals be fully involved. Government reviews the work and may impose conditions upon the operations in order to protect the public interest. A number of agencies and communities are studying compensation (e.g. GNWT draft policy, DIAND, land claims and communities such as Fort Good Hope). ITC sees compensation as a principal issue and it is also required by law.

Tom Nesbitt (BRIA) noted there has only been one study ever made using Inuit knowledge and that was done in Northern Quebec. (The proponents involve native people in research, for instance:

- the ten year long white whale study conducted in the Beaufort Sea;
- the oil spill experiments;
- polar bear monitoring;
- training for clean-up support;

- ship track crossing experiments;
- ice study task force with the Tuktoyaktuk HTA which studied the effects of artificial islands on the ice regime;
- the whale study conducted by Arctic Bay and DIAND;
- DFO and Tom Smith studying underwater noise; and
- Tom Berry, coastal bird studies.

All of these have been constructive, co-operative efforts using local experts and their input.) The Inuit possess body of knowledge and concerted efforts must be made to collect this.

Judith Donaldson (BRIA) suggested that Inuit knowledge is largely untapped by the scientific community and when it is used it is badly used (e.g. a falcon count done by helicopter).

Abe Okpik stated that a true Inuk hunter will never give you his hunting, fishing and trapping secrets; these are his livelihood. They will never tell you the truth about an area.

Nain, Labrador
26-27 October, 1983

The Panel held three meetings on the afternoon and evening of 26 October 1983 and the morning of 27 October 1983. The meetings were well attended. The following summarizes the main topics discussed.

Concern about oil spills was expressed particularly:

- clean-up, equipment, aftermath and after-effects;
- effects on the Labrador Sea;
- effects on the Labrador coast;
- effects on the fish stocks, eggs, hatchlings;
- effects on seals and other sea mammals;
- effects on birds; and
- effects on livelihood.

The design and safety of the ice-breaking tankers was discussed including:

- lessons from the Titanic and Ocean Ranger;
- design and construction;
- strength and safety;
- equipment, engines, navigational aids, crew training and experience;
- dry-docking and repair; and
- ship routing, control and community input.

More and better studies on wildlife are needed including the use of local people.

The need to recognize the Labrador Inuit as a people, to commence consultation immediately, and to have community input and a community direction was discussed.

LIA should have input in monitoring the proposal and all the communities should be represented.

The current economic situation was explained including the poor prices for seal skins, the high cost of living and limited job opportunities.

The need for compensation for oil spills and loss of access caused by the proposal were mentioned. The companies should provide compensation to everyone affected. Questions about the time and amount of compensation were raised.

More environmental information is needed including: storm tracks, weather patterns year-round, off-shore weather conditions, ice

movements, and ice-bergs; noise pollution effects on animals; the Labrador Current and Gulf Stream as well as on-shore, off-shore, and in-shore currents; and wind direction.

IBT's passing 200 miles off-shore would result in the destruction of the life and culture of Labrador Inuit.

It was suggested that both levels of government are not ready for any such project.

Land claims will give Inuit the right to manage and control the environment.

The proposal should not go ahead until Inuit rights are recognized; there should be no development until land claims are settled.

The opinion of the Home Rule Government on the Arctic Pilot Project was expressed and Greenlanders stated that the same applies for the Beaufort Sea Proposal.

Old Crow, Y.T.
11 November, 1983

The proponents outlined their Beaufort Sea proposals and noted the transportation of oil to market could be by pipeline, tanker or both. Pipelines have been extensively used and much experience has been gained in the construction and operation of pipelines in northern regions. If a pipeline was used it would probably be buried most of the way and be similar in size to the one at Norman Wells. The proponents are disappointed with the decision not to allow Gulf to develop a base at Stokes Point and the fact that it took so long to arrive at the decision. Fish, caribou and snowgeese are of prime importance to the people although the effects on the caribou are manageable. Because of the distance between the proposed developments and Old Crow, the community and its vital resources will be protected. There are job opportunities, 10 - 12 people were employed on the Beaufort Sea developments this year.

Chief Abel asked about the possibility of oil spills and how they would be handled. Old Crow is happy with John Munro's decision on the North Slope, because people from outside were coming to take the community's land away, and if the proposals had been approved the community would have stopped land claim negotiations and would have taken court action to ensure that the project did not proceed. A pipeline is preferable to tankers. There should be no construction on the North Yukon Slope or a pipeline built along the Dempster Highway.

Elizabeth Kaye (Band Councillor)expressed concern that development may interfere with the caribou and the social structures which are important to the culture and lifestyle of Old Crow. The caribou and the land rightfully belong to Old Crow, by birth and by choice. Interference with the caribou and land could take away that choice. There may be social impacts caused by the road the Yukon Government proposes to build. This would grant access and the social impact would be the same as the opening of the Alaska Highway. There should be no development at Stokes Point because Old Crow could be out voted by the population which might become resident at Stokes Point. (The proponents do not plan to have permanent residents on any site therefore there will be no voters.)

Stephen Frost (Community Member) wanted to know about compensation for reductions in caribou, fish and birds should there be oil spills from pipelines or tankers. (The proponents believe the effects on the caribou will be manageable. If it is shown that oil company activities directly cause caribou to go away the companies will negotiate with Canadian Wildlife Service and the Yukon Government to find fair ways of compensating the community. Operations are very closely regulated by the Federal and Territorial Governments and in case of an oil spill industry would, on agreement, provide the money for compensation and the government would administer the money. If there was no agreement then the case could go to arbitration.)

Elfie Charlie (Social Worker) expressed concern that a port in the North Yukon will lead to increased alcohol consumption, to women battering, child abuse and financial management problems which will damage the culture and way of living.

Ben Charlie (Citizen) told the Panel he is against any development in the North Slope and suggested that if development goes ahead the hiring of native northerners should be company policy. Hunting and fishing is "our" way of life.

Erwin Widgeon (Citizen) told the Panel that he is worried about the kids if land claims are not settled. This is their country and the government must deal with them fairly.

Effie Linklater (Citizen) said there is a need to protect both the land and the animals. Caribou breed on the North Slope and the Dempster Highway is changing their migratory trails.

Alice Frost (CYI) wanted to know what would happen if development occurs in the North Yukon and suggested the effects of noise, garbage and sewage would drive caribou away. A national park should be established in North Yukon and development should take place only after land claims are settled.

Randall Kendi (Citizen) suggested a town at Stokes Point would scare the caribou and other animals away and assured the Panel that the people live on these animals and do not wish to live on white man's food.

Lazarus Charlie (Citizen) noted the native people have always lived in this land and depended on the caribou. The people will always be able to rely on the caribou. A seismic line was put through the Old Crow Flats; much damage was coused by caterpillar tractors and the creeks were never cleared again, the fish did not return. The native people depend on the land which belongs to them.

Randy Tetelichi (Citizen) gave a brief summary of the cultural history of the Kuchin Indians and their dependence on local wildlife. History shows caribou was the staff of life, there was no alcohol in their communities during this time and laws were made by elected chiefs and the Shaman. The arrival of the white man brought about the use of alcohol and tobacco, foreign religion, rifles, hospitals and schools, all of which changed their way of life and the government took away their rights.

Mary Netro (Citizen) does not like the idea of development in the area because oil spills would destroy the wildlife

Brenda Beebe (Ph.D., Zoology, University of Ottawa) expressed concern over possible effects on the Porcupine Caribou Herd which is the mainstay of the Old Crow diet. If there were adverse effects on the herd the people have no wages by which to buy food and this would require massive subsidies to purchase country meat for the community. There should be compensation if the herd is diverted and monitoring of the developments so that early advice on impacts could be communicated. The risks far outweigh the benefits and recommended that there should be no development on the North Slope.

Grafton Njootli (Citizen) wondered about Dome's anticipated reserves of 32 billion barrels and contrasted these with the Geological Survey of Canada which anticipates 9.4 billion barrels. Is there really an urgent need for a port on the North Slope while there are two ports in the Northwest Territories. What the community needs is protection for the 160,000 caribou and 500,000 geese and suggested that a national park be proclaimed and promulgated immediately. This park should be within the boundaries recommended by CARC and the boundaries extended east to the Northwest Territories border. It is safer to use a pipeline but not in the North Yukon Slope or along the Dempster Highway. An oil spill at sea would be difficult to clean up however a break in the pipeline could be easily fenced to keep animals out. The Mackenzie Valley natives now, more than ever before, support a pipeline whereas the Eastern Arctic Inuit are opposed to tanker routes. The Panel should recommend a pipeline route over a tanker supply system. The proponents should employ Old Crow people and training should be provided now. Although the proponents have been operating in the Beaufort Sea for 20 years they have only employed nine natives from Old Crow. (The proponents said that they hired from communities in close proximity to construction first. Many of the people employed on the Norman Wells project are northerners and are receiving training.)

Hanna Netro (Citizen) expressed concern for the future and opposed the proposal because of its possible impacts on the environment and the social fabric of the community. The noise of heavy equipment will deflect the caribou herd from migratory routes and tankers would damage the wildlife, waterfowl and fish. If development occurs after

land claims are settled management boards can be set up and controlled by native northerners. Caribou and fish harvests need to be guaranteed. Native employment should be in the winter, not in the spring, to avoid interference with the culture or the way of life. There should be no development until land claims are settled and northerners are prepared for changes to come.

Mary Kassi (Citizen) stated that development has damaged her hunting area and demanded that developers leave "our" northern Yukon and animals alone.

Wayne Carlick (Citizen) recommended that there be no oil development in the north and asked if there is an alcohol training program for workers on the rigs. (The proponents provide on-the-job support through supervisors and trained counsellors. These are available upon demand. They also maintain dry camps. Funding for community alcohol programs is made through the corporate donations program.)

Charlie Abel (Retired Chief) wanted to know what would happen to the native people in the north if the caribou were destroyed. The people are not healthy today because they already eat too much white people's food. The oil companies must train the young workers before sending them off to work.

Mary Peter (Citizen) told the Panel that the natives depend on animals and these must be protected, heavy equipment noise at Stokes Point would frighten the caribou which feed on the North Slope. The new road proposed by the Yukon Government would bring in more tourists, hunters and trappers. There should be a national park created in the area. Old Crow people want to work on the pipelines however there should be no mining on the North Slope.

Robert Bruce Jr. (Citizen) noted the caribou herd near Stokes Point needs protection, as do the seals, fish and birds, from noise and possible oil spills. There should be no development in the North Yukon until all land claims are settled. There should be compensation for work done there but asked what good is money if there is much damage.

Albert Charlie (Former Chief) asked that the companies tell the communities what they know and what they have learned. The companies and others must learn from the local people. There is much to learn from each other.

Reverend Don Sax (Anglican Church of Canada) noted there does not appear to be a monitoring or compensation plan developed for loss of caribou and asked if a new port is really necessary. (The proponents said that Mr. Munro's decision has already been discussed. Gulf has a need to service their 20 year exploration program. There is little evidence that industrial activities have significant effects on caribou herds. Provided there is cooperation

between the harvesters, the Canadian Wildlife Service, the Federal and Territorial Governments and the oil companies, the caribou management program can be instituted and the herd will continue to survive and will not suffer as a result of development activities.)

Willie Thomas (Citizen) recited his lengthy experience with the oil trade both in Alberta and in the Beaufort Sea area and its associated hazards, noting that a remote compressor station near Brukes, Alberta blew up, Dome Vessel No. 208 was split open because of the cold, ice pressure and wind lifted a vessel right out of the water, a drill rig was pushed by the ice and had to disconnect very quickly, and the "Arctic Tarsuit" was struck by ice which tore an 18' gash just above the water line.

Inuvik, NWT

November 22, 1983

Doreen Curry (Community Teacher) Has ten years experience in five locations. Stressed the need to keep costs down while giving everyone a share of the benefits.

Bill Coedy (Inuvik Ski Club - Submission IN-64) made a plea to preserve the recreation land now slated for housing if the need for housing increases. This position is supported by the proponents.

Bill Weir (Council for the Disabled) requested community services and employment opportunities for the disabled.

Ethel Cardinal (Inuvik Youth Groups) expressed concern about suicides. Teenagers have no facilities. Suggested the use of Grollier Hall facilities. Wants assistance from younger people. Should have representation on the Educational Advisory Committee. Keen on training. Interested in support from industry for their activities.

Ken Snider (Anglican Church Minister) noted insufficient resources available to deal with impacts now. (The Panel raised the Fort McMurray example to ask if there was a need for special arrangements. Husky - Has been some help in the past but no one assigned permanently. Stutter/Panel - refered to Beaubier's speech on additional funding. There is a need to support those in the community who are dealing with problems as best they can. Suggested that jobs that take men away from the town may be destructive.)

Bertha Allen (Native Women's Association) noted the Association was founded in 1977. A breakdown of the Native culture has been caused by industrial activity. They should have been better prepared for the change that has come.

Recommendations:

1. Companies should use native councillors.

2. Health workers have been trained but not hired.

3. Natives can't find housing and feel like transients.

4. Need homes for battered wives, children, and husbands.

5. Secretarial services (Native) in Yellowknife are not being used by the Beaufort Companies.

6. Concerned about hiring of people with criminal records (should do it) and hiring southerners with northern addresses (shouldn't do it).

Burlingame (Inuvik Library Board) requested increased funding to expand the library.

John McEachern (Resident) commented on the role of BEARP and suggested it was not appropriate. Questioned the choice of communities and intervening funding.

Al Pluim (President Chamber of Commerce) expressed concern about delays. There is a need to live and work here for many years to understand what is at stake. Intervenor funding and government restrictions have delayed development.

Delma Kasoon (Native Resident) made an individual presentation:

1. Native people should be involved;

2. Money management advice is needed;

3. Support COPE compensation proposal;

4. More training is needed;

5. A northerner should be someone who has experienced subsistence existence.

Jack Hicks (Resident - Submission IN-44) expressed concern about the rate of suicides.

Peter Westaway (Resident) noted there have been impacts on the Inuvik Westend. The area is predominantly Native. Conditions will deteriorate further as development takes place.

Lee Woork (Satco) made a plea for completion of the Mackenzie Highway.

Doug Billingsley (Businessman) noted that there are trends towards rising expectations, students are being trained for oil and gas, there is a rapid population increase. Business has done well, but because it has been done quietly the Panel hears only the malcontents.

Cynthia Hill (Resident) noted that there is a role for women in the Beaufort Sea Development.

Resolute, N.W.T.

15 October 1983

The Panel Chairman welcomed the participants to the first general session. He reviewed the Panel's mandate and summarized the wide range of information and concerns presented to the Panel during the community hearings in the Western Arctic.

The Proponents made a very brief opening statement in which they reviewed the progress of the Proponents to date. They said that the estimated start up date for the project had slipped somewhat and this was due to the lack of drilling success. The possible effects of activities on the environment and on people remain, in essence the same within the proposed timeframe. The proponents know that the technology to do the job exists in most areas, are confident everything is in place and are currently ultimizing their project designs. They are, however, at the planning stage and not at the project implementation stage.

John Klenavic (DIAND - Submission RB-1) read a departmental position paper into the record.

Thomas Suluk (ITC and Tungavik Federation - Submission RB-2) introduced ITC's representatives to the Panel and noted that this is not the first set of hearings on traffic through the Northwest Passage and named the APP/NEB hearings. He is confident this Panel will receive a warmer welcome than that given to the NEB by the Inuit. He would oppose the proposal if it were concrete, he sees no firm commitment by the Proponents and will therefore not directly respond to a poorly conceived proposal.

Lucien (BRIA-Submission RB-4) stated the Inuit oppose the proposal. It is not known how dangerous tanker traffic will be during the 24 hour darkness and the need to carry out studies on:

- year round ice conditions;
- damage to sea mammals by industrial development; and
- oil spill clean up.

There is no clear indication how many Inuit will be employed on IBTs. Inuit education levels are low and if they remain low this will prevent Inuit participating in the operation of the project; most employees will come from the south. BRIA is opposed to any project which will drive

away or destroy the wildlife which is essential to the Inuit way of life. Compensation, though welcome, does not replace the wildlife.

Brett Moore (DOE) introduced the representatives of DOE and told the Panel that his Department had previously submitted documents on developmental scenarios, he has no intention of revisiting the wealth of materials already presented and stands ready to answer to any topic submitted.

Brian Nichols (DFO) said that within the EIS his Department has identified specific concerns such as safety, hydrographic charting, ice detection, noise and its effects, icebreaking and its effects on seal pupping and the aquatic community, oil pollution, socio-economic developments with respect to resource harvesting. He commented that the Department's view is that the existing knowledge of these items is inadequate for year round navigation. The Proponents should adopt the Lancaster Sound planning principles as laid out in the Green Paper and asks that they take action on various recommendations, develop a demonstration project to show operational safety, and, make a solid commitment to the Lancaster Sound EARP and the Green Paper.

Tanker Design and Performance

Archie Charcher (Dome Naval Achitect) commented on oil tankers and the proposed IBTs:

- there are 3,000 tankers daily operating worldwide, carrying 53 million barrels of oil;
- the IBT operational environment involves ice, from flat ice pans to massive icebergs;
- oil spill hazards include grounding, collision, ramming, fire and explosion, structural failure, loading failure;
- few tanker spill accidents are due to equipment failure or to human errors. Usually it is a combination of both;

- accidents can be avoided by appropriate recruitment and training, doubling the watch, clear statements of operating procedures, clear management and authority structure, discipline and absence of alcohol and drugs;

- the IBT's double hull reduces the chance of oil spills by ramming and grounding;

- collision and grounding due to propulsion or steering system failure will be avoided by using twin propellers and twin rudders;

- failure due to ramming and weather problems will be avoided by building the IBT beyond conventional limits. Design of the IBT mid section is five times the strength of conventional tankers;

- utilization of an inert gas system will prevent fires and explosions in the oil tanks;

- extensive pre-operational trials will occur at dock side, open water and in ice; and

- improved ice detection features reduce risks for all but iceberg conditions.

(The Panel questioned the accident rate when using innert gas and the use of double hulls in conventional tankers.) Only a small percentage have double hulls but they usually have a double bottom. Tankers sailing out of Valdez, Alaska, have an accident rate of almost zero percent; they have carried 3 billion barrels of oil and have spilled 30 barrels. Inert gas systems are being increasingly fitted, some 30 per cent of all ships are so equipped. The accident rate is excellent with only one so far and it is not clear if the system was used correctly at the time. (Paul Greisman (Panel technical expert) questioned the anticipated reduction of power in the IBT from 2 X 50,000 shaft horse power to 2 X 35,000 shaft horse power, the shape and protection of propellers and hull design.) Testing with the Robert Lemeur indicates the possibility of power plant reduction which will affect performance not safety, 35,000 shaft horse power propeller is designed for a Class 10 IBT and is protected from ice blocks by a nozzle. The nozzle system has been proven in tests in four

icebreakers in the Beaufort Sea. The strength of the IBT design was tested by allowing the Robert Lemeur to ram an iceberg head on. Bow and midsections are designed to withstand full speed collisions. (Judy Rowell (LIA) wanted to know what operational risk there is within the operational environment.) Have predicted accident rates due to equipment failure, etc. Also there are few ships in the Arctic so fewer collisions, expect increase in ramming of icebergs. Based on all considerations and on the design of the IBT it would be rated at 100 times stronger than a conventional tanker of equal capacity. The proponents advised the panel that a paper describing the Arctic shipping program for class 10 tankers has recently been presented at the Whitehorse Symposium on Arctic development. (Sharon Bobitt (LIA) questioned the ability of the IBT to withstanding collision in a heavy sea state.) In comparison to others in the world Baffin Bay only experiences "a small sea state". If struck broad side it is anticipated that the ship plates would merely be pushed in. If the double hull is holed, three compartments would be penetrated. He is confident in the design. He has examined the design of each member of the structure, calculated the weakest for stiffness, calculated the strength of ice, using the results and applying only the best methods of design and construction concludes there will be no penetration greater than half metre. (Gordon Beanlands (panel technical expert) requested clarification on oil spills noting the proponents claim its tankers will be 100 times safer than conventional tankers.) The overall statistics are correct, the IBT's are 100 times to 150 times safer depending on passage routes. (The panel questioned statements that the variable pitch propeller can achieve full power ahead yet only 65 per cent of thrust astern.) The propeller efficiency is not as high astern as it is ahead. With the new design can achieve 100 per cent utilization of power but this achieves only 65 per cent efficiency in astern thrust.

Resolute, NWT

17 October 1983

Tanker Design and Performance

Murray Coolican (ITC) asked for an indication of the special training and experience required for the crew of an arctic tanker. (The proponents noted training will vary depending on the requirements of the ship's departments. Qualified Canadians within the company will be sent to sea as supernumeriés on Texaco and Chevron tankers to enhance their knowledge of tanker and very large ship operations. Currently there is a nucleus of personnel who are ice-breaking every year. The first IBT will be crewed by qualified personnel trained on big ships and in ice-breaking.)

Brian Nichols (DFO) asked how detailed and extensive the IBT northern sea trials will be. (The proponents indicated the trials will include extensive dock and open water testing, full on board instrumentation including propulsion unit, navigation equipment and full scale ice testing in various levels of ice. The vessel will make a dry run through the Northwest Passage in ballast and steam in to the whole pack and test the vessel on all types of ice encountered.)

Ron Wallace (ITC) asked if the ship is found to fail its sea trials what is the process for re-engineering. (The proponents noted the Canadian Coast Guard and the "Classification Societies" will supervise the trials. The vessel is not allowed to operate commercially until a "Sea-worthiness Certificate" is issued. If tests fall short of established criteria the company will work out corrective procedures with the authorities. Up front research will ensure that these events will not occur.)

Ian Marr (Canadian Coast Guard) told the Panel that the CCG Regulations covering the IBT's will reflect the best available knowledge at that time. Certificates will be issued for the Arctic classification the ship tests out at. (The panel asked if the present regulations are adequate and acceptable.) The regulations have been developed over time through the best knowledge available. The regulations make for a strong ship, the regulations cover no aspect of financial liability, only the safety of people and the vessel.

Warren Bond (panel technical expert) noted the arctic tanker's hull exceeds all formal regulations and will have no difficulties in obtaining a certificate. The "Arctic Waters Pollution Prevention Act/Regulations" are only one of 40 acts and regulations which must be compelled with. The vessel meets the International Convention on Pollution (1973) with its segregated ballast tanks. Additionally, the International Convention of Safety (1974) has been met by insuring a dual inert gas system for the cargo tanks is standard equipment as are all required monitoring and alarm systems and foam generators.

The panel asked about the control and maneouverability of the vessel. (The proponents will use twin conventional rudders, twin variable pitch propellers protected by nozzels, a bow reamer 68 metres wide while the mid-ships section will be 60 metres wide allowing the vessel to "yaw", and a port/starboard heeling system which in combination will allow a high degree of maneouverability. Tom Pullen (panel technical expert) commented that it is a magnificent vessel, nimble, agile, very maneouverable and powerful. Navigation in the arctic night will be no problem. Navigation in May and June will probably be the most difficult but will be conducted in brilliant sunshine. Year-round arctic navigation is not hazardous, merely difficult and challenging; it will be a normal marine operation, it will be no big deal.)

Lucien (BRIA) pointed out that the destruction of the IBT could occur because of bad weather and storm conditions during the winter and during white-outs in spring when visibility is zero. (The proponents noted that with the navigation officer, up-to-date information on icebergs from current ice maps and with instrumentation to predict their speed, course and position, the ships positions and those of potential hazards will be located and identified, by many methods using the latest technology.) If the ship keeps ramming ice its bow will deteriorate. (The proponents explained that the internal design is similar to the external frame and damage is not anticipated. The cargo compartments are divided internally, therefore, if there is a leak it will not spread outside the compartment or the ship.)

The panel asked how long it would take to order, construct and deliver a Class 10 IBT to the Beaufort Sea. (The proponents outlined that if the schedule were approved today it would take six months to produce bid packages, six months for the builder to define the information into manufacturing drawings, construction could be completed in 24 to 30 months, and the sea trials would take six months. It may take 3 years to build the ships and they could be carrying cargo in less than 4 years.) The panel asked if there will be a slippage in the timing of construction because of the involvement of other regulatory bodies. (The proponents noted the approvals procedure for the ships design is streamlined. Slippage is impossible to predict. Approval is required to build the ship and approval is required for the overall project. There are other regulatory processes which will come into play. Oil must be found and field development must be approved by DIAND. Tankers may be reviewed and approved by MOT. The Proponents may have to go through NEB and other regulatory agencies.) The panel suggested that there may be a Class 10 icebreaker built before the IBT and suggested that it may be six years before the IBT is approved and possibly seven years before an IBT passes the communities along the Parry Channel. It could be 1991 before the project would go ahead if approved. (The proponents agreed that the original timetable has slipped, there have been poor drilling results, so 1988 to 1991 is a range to consider. The EIS also identifies a possible topping plant to process Beaufort Sea crude with export to market by open water tankers.)

Tom Nesbitt (BRIA) requested a commitment from Dome for the construction of the IBT and for the commencement of tanker shipments. (The proponents reaffirmed their commitment to build a Class 10 but to give a firm date requires a firm project. The company is striving hard to build the vessel but is limited by lack of money and participation of others.)

Jeff Gilmore (Justice, GNWT) noted that IBT's will operate independently of CCG ice-breakers and that Dome has kept CCG informed on the developments of there vessel. (Ian Marr, Canadian Coast Guard, noted the CCG ice-breaker is a means of obtaining the efficient movement of shipping. The proposed CCG ice-breaker is a Polar Class 8 ; its design is ready and approved. The program has been postponed by Cabinet until a government presence is required. If eventually approved, it would take 4 1/2 years to build a Polar Class 8 icebreaker.)

Simeon Amagoalik (BRIA) stressed that the ice conditions in the western Arctic are very different from those in the Lancaster Sound. The Sound is deeper, there are many icebergs, ice is very thick and there is much multi-year ice.

Commissioning the Ice-Breaking Tanker

The Panel asked if the proponents will delay commissioning the first IBT until the second arrives and if there will be a six month testing program for both ships. (The proponents will, on account of their heavy capital investment in the ships, conduct sea trials for six months and then commission the first ship once it is available. The sister ship will then be ready for sea trials. Both ships will then be available at the same time.)

Thomas Suluk (ITC) noted significant debates concerning tanker traffic have already been heard by NEB, therefore, it is meaningless to go through the information again.

Navigation and Routing

Levi Nungaq (Resolute) expressed concern about possible damage to the tankers and potentially to wildlife. Hunters have far to go to find game and now the government is proposing a tanker route. Inuit want jobs leading or driving the ships.

DOE and GNWT asked for details of the shipborn hazard detection and navigational aid systems. (The proponents indicated the most serious threat to the ships are icebergs. Existing radar normally detects icebergs at a range of forty kilometers. The stopping distance for an IBT will be one and one half kilometers. The current "sonar scanner" is at the research stage and the main problem is the device requires an acoustic open-window. Ian Marr (CCG) indicated "raycons", radar reflector, automatic navigation lights and mini-electronic position

fixing systems may be fitted along the Parry Channel as needs become identified. A sophisticated U.S. satellite navigational system will come on-stream about the same time as the IBT enters service. The proponents believe there is enough capability, using the present system, to proceed.)

Judy Rowell (LIA) asked if the ship corridors will be five kilometers wide. (The proponents noted the voyage plan is worked out between the Captain, the ice specialist and the CCG, the corridors could be less and may vary. Ian Marr (CCG) mentioned the routing will also be determined by the Environmental Advisory Committee which includes representatives of GNWT, ITC and LIA. The committee will advise on the most environmentally acceptable route and CCG will follow this advice. A vessel traffic system will be established for Parry Channel with an operation center in the north. The CCG has no mandate other than pollution control and safety and if the mandate is to change there must be amendments to the Shipping Act. Appropriate changes to the legislation have been suggested.)

John Donnihee (GNWT) asked if economics will be the key component for the determination for any routing change throughout the years. (The proponents indicated the ship routing may be modified to avoid multi-year ice. There may be variations of travel time and fuel consumption of ships and the EIS has a built-in fifteen percent latitude in cost estimates and forecasts to allow for this.)

Capt. Pullen (panel technical expert) noted that radar will fail to detect icebergs if they are rounded, or if much moisture is in the air which causes degradation of the radar signal.

Oil Spill Risks

The proponents discussed the risk of an oil spill occuring and provided calculated risk factors from the EIS.

Phil Cohen (DOE) identified the following oil spill risks:

- one substantial oil spill, greater than seven thousand barrels, from a blow-out or a storage spill;
- three uncontrolable oil spills, during the twenty year life of the project, along the route; and
- increased production will increase risk and size of an oil spill

Ron Wallace (ITC) cited the drill ship pushed off the drill hole by the icepack in the Beaufort Sea as an example of risk analysis which was calculated would not happen. Drilling in the Beaufort Sea is more difficult than anywhere else in the world but when compared

statistically there should not be anymore difficulties. Analysis is not as valid as it first appears when the reality of the situation is known. The panel should consider the human harvester in the region because in human terms things occur against all odds and should investigate all off-shore projects in order to understand the added degree of difficulty in the north. (The proponents noted that in eleven years of drilling there have been no blow-outs resulting in oil spills. Regulatory agencies will not allow situations to occur similar to Saudi Arabia and Venezuela.)

Bill Pistruzak (Dome Oil Spill Specialist) discussed oil spill counter-measures and the research and development in progress for the countermeasures applicable to the Beaufort Sea and tanker shipping routes. Open water techniques for oil-spill clean-up include the "Arctic Boom" which has been specially designed for use in the Beaufort Sea and the "Bennett In-shore Boom" for use in sensitive near-shore areas. The Beaufort Sea has a complete blow-out counter-measures system in place - booms, collectors, skimmers, storage tanks, burners, all of which are controlled by the Beaufort Sea Oil Spill Cooperative comprised of Dome, Gulf, and Esso. Oil spills may be dealt with using dispersants applied from DC-6 aircraft, ships and helicopters; however, more developmental work is required for "cold water dispersants". Other measures include heli-portable burners and incinerators, "Argos" tracking buoys monitored by satellite and air drop oil spill ignitors. The proponents are fully dedicated to the prevention of oil spills. They have established comprehensive training programs, developed technological capabilities, designed special oil spill response equipment to be incorporated into the IBT's, established sufficient logistical support for oil spill clean-ups, and have published a counter-attack /shore-line protection manual specifically for use in the Beaufort Sea operations area.

Questions posed by the panel and intervenors included:

- the policy on the use of dispersants (The proponents consider dispersants possible countermeasures available, government approval is pending and they are awaiting permission to conduct cold-water testing in the Beaufort Sea.);

- success of clean-up in moving ice (The proponents will burn oil if it is released on the surface. If it is released below the surface it will be trapped in the ice. These areas will be marked by tracking buoys and the oil will be burned off in the spring during the thaw.);

- how will sensitive areas be dealt with. (The proponents have plotted sensitive areas and high risk areas using computers. Tanker routes will be selected to avoid these areas. Oil spill manuals will identify these areas.);

- what type of boom will be used for tanker disasters. (The proponents use three types of booms to contain oil on water - near-shore, harbour and off-shore booms. All can be used during a tanker spill. Off-shore booms will be used when waves are over 1 metre high.);

- how effective are dispersants in water below 10 degrees celsius. (The proponents noted dispersants are not fully understood. Experiments have yet to be conducted in the Beaufort Sea. Trials have been carried out in warm waters around Nova Scotia. Other dispersants are available but their quality is not known. Dispersants are the priority in research and development. The lead role in research and development should remain with the companies who have already spent hundreds of millions on oil spill clean-up development.);

- how effective is the current ignitor model which might be used in the Labrador Sea. (The proponents and government have made considerable efforts in the development of the ignitor. These have never been used in the course of an actual oil spill. Ignitors require a minimum thickness of one millimetre of oil on the surface to be used effectively.);

- what are the counter-measures for oil-spill clean-up in pack-ice (The proponents explained that what is not recovered or burned will be quickly encapsulated in the ice and destroyed in the spring. Any remaining oil will be dispersed by wave action. Marker buoys will be placed on the oil spill to identify the area for spring clean-up. Twenty to thirty percent will evaporate naturally and 10-20 percent will be dispersed by wave action.);

- what are the criteria for coastal protection, what are the controls and limitations of clean-up logistics. (The proponents have not addressed these. IBT's are some years away. Stock piles of equipment may be located at Resolute, Frobisher Bay or possibly Pond Inlet.);

- What are the "soft" aspects of oil spill training, experience, numbers of personnel and equipment required. (The proponents explained that many training techniques may be utilized and will be expanded upon when IBT's arrive. Classroom and in-house sessions, together with joint simulation exercises on the hypothetical spills, videotapes of actual spills, computer assisted learning situations, plus extensive joint exercises carried out with the proponents, all of these may be carried out under government observation in order to familiarize personnel with procedures and equipment.);

- Ice and oil interaction, especially at the ice edge, is very important to the Arctic environment. Are these habitats classified as critical or non-critical (The proponents have put extensive efforts into these considerations and are very sensitive to the environment and damage prevention. They will avoid sensitive coastal habitat.);

- what will be the effect of oil to sea mammals, crustaceans, shrimps, fish, plankton if it is under the ice for a long time. (The proponents explained that in each, oil is trapped under the ice during winter ice growth. Seals may come in contact with the oil, however, experiments indicate seals recover as oil is worn off. Whales not normally harmed. Their food, plankton, may be effected. Adult fish, char, salmon and cod are rarely effected. Planktonic stage fish eggs will be killed off. Crustaceans, crabs and shrimp may be harmed where oil settles along the sea floor.)

Resolute, N.W.T.

18 October 1983

Oil Spills

Thomas Suluk (ITC) asked for more information on compensation for actual and potential damages and/or losses to livelihood and wildlife resulting from oil spills (on ice and in open water) and for loss of equipment through cracks in the ice created by the IBT's. (The proponents indicated if it can be determined that the losses were a direct result of tanker traffic then compensation will be negotiated. If damage causes loss of opportunities then compensation will be provided as required by legislation. The government administers these compensation funds.)

Judith Bobitt (LIA) asked about cleaning-up a winter oil spill along the northern Labrador coast and how much the clean-up would cost. (The proponents noted that any spill in this area would be well off-shore. This is a high-energy area where dispersants would be used as required and the situation would be monitored. Clean-up costs could vary from a few dollars to hundreds of dollars per barrel of oil spilled.)

Ron Wallace (ITC) requested elaboration on the recent oil spill in the Beaufort Sea. (The proponents explained that Dome chartered a barge to store waste oil. During a storm in Tuk Harbour the barge was flooded and Dome, fearing that it would sink, grounded the barge in shallow water. On the advice of various regulatory agencies Dome attempted to refloat the barge. The area was boomed. In the course of pumping out oil several thousand gallons were spilled. More than 70% of the oil was recovered. They acted prudently and were fined $20,000.)

The panel asked when birds would be most vulnerable to oil spills and how will polar bears be protected. (The proponents indicated that April 15 through October 15 would be the most vulnerable period for birds and in the case of a spill near polar bears they will work with northern people and CWS to determine how best to remove polar bears, probably by feeding them tranquilizer, and crating and removing them by helicopter to areas identified by local people and CWS. Inuit monitors with dogs will be used to spot bears in the area of a spill and heat sensing devices will be tested to ascertain their effectiveness in locating bears. Killing of polar bears is the absolute last resort and will be determined in conjunction with the communities, CWS and GNWT).

The panel asked if the efficiency of skimmers decreases as temperatures decline, how oil will be handled if a tanker runs agroung during the ice period and when would oil be transferred to another ship. (The proponents noted that skimmers will pump as long as oil is pumpable; above 0 degrees celius in water with air temperature above -5 degrees celius. If oil is spilled from a grounded tanker it will accumulate on top of water and ice and may be burned. If it is frozen into ice it will be marked and cleaned-up in the spring. Oil from damaged tanks will be pumped into wing tanks. If there is no way to recover a damaged IBT then its cargo will be transferred to another tanker. If the IBT has run aground part of its cargo will be transferred to lighten the load and refloat the vessel. Support vessels such as the Irving Eskimo, MV Arctic and icebreakers are available.)

Simeone Ukalianuk asked that the proponents give more consideration to tanker routing because livelihoods and wildlife will be effected by oil spills.

Jesse Nutarak (Pond Inlet) asked what happens to oil under the ice. (The proponents indicated that if the current is moving at 35 cm per second or less the oil will be encapsulated in ice undulations within 24 - 48 hrs. The location of spills will be marked with buoys. These buoys can be monitoried by remote sensing techniques. Bombs may be used to scare off seals and small whales in the spill area.)

Glen Williams (Arctic Bay) noted that not enough research is done in winter "researchers are like the geese, they arrive in the spring and leave in the fall." (Tom Smith noted DFO conducted a 3-year winter sampling programme.) The 1982/83 whale disturbance research involving MV Arctic and CCGS Sir John A. MacDonald, although Arctic Bay had initiated the project, it's control was taken out of their hands. The community should be fully involved in all future projects and should be given opportunities to express their concerns. (John Klenavic (DIAND) agreed with this and assured this will happen in the future.)

Gordon Beanlands (DOE) noted that the proponents will set a precedent in developing a monitoring system which must comply with standards and be flexible. At what point will the proponents say "we have a problem", what are the limitations of monitoring, how are impacts monitored, who gets the blame for problems. (The proponents noted Prince of Wales Strait is a possible problem area and have set up a monitoring system. If the people are unable to harvest and attribute this change to more than natural circumstances then we have a problem. Scientific community will assist in identifying those problems caused by nature and those by industrial activity.) Regulatory agencies have responsibilities for setting limits for losses. There appears to be no resolution on this problem and there is only a commitment to monitor. What mechanisms allow the proponents to work with regulatory agencies in monitoring impacts. (The proponents

work with the communities active participation. There is enough flexibility in the regulatory framework to allow for this. There is no need to formalize arrangements.)

Sam Omik (Pond Inlet) asked if the tanker operations will be stopped or carry on if the animals are destroyed. (The proponents assessment of the ship's performance, the environment of the area plus the uncertainties of nature together with experience, indicates there will be no significant harm caused by the operation of 1 or 26 IBT's. Monitoring will develop as the project proceeds and every possible effort will be made to reduce, minimize or eliminate changes. If "monitoring" indicates the increase of shipping has created significant change alternative transportation systems will be considered. Oil-spills are a concern shared by all and the project has been designed and planned to minimize damage. The ultimate responsibility for any project remains within the jurisdiction of the government which could curtail operations until causes are identified.

The Panel noted that narwhal is managed by a quota system and asked what will the proponents do to redeem lost hunting opportunities if the population is reduced because of tanker traffic. (The proponents acknowledged the deflection of marine mammals is difficult to assess. If the proponents conduct their operations in a normal manner there would be no need for compensation, however, if it is proven that tanker traffic caused the deflection then there would be compensation.)

Noise

Murray Coolican (ITC) noted that there was new evidence about to come forward from Dr. Neil Brown (Dome) which had not been surrendered to the panel 7 days ago as required by the Panel's operating procedures. While this places ITC in a difficult position, ITC accepts the panel's ruling that this evidence is acceptable.

Dr. Brown (Dome) gave evidence on the characteristics of arctic tanker noise, the effects of noise on marine mammals, and predicted the noise generated by the IBT's will be equal to or less than the noise level made by current CCG ice-breakers.

Dr. Terhune (panel technical expert) noted seals spend part of their time in the open air and part in water so their sensory systems have to work both in water and in air. Their whiskers are sensitive and can detect fish up to 1/2 mile away. Eyes are also sensitive to low light levels, they are able to see clear images underwater but are short-sighted in air. Seal ears have lost the ear flap but are basically the same internal structure as the human ear.

Rick Hurst (DIAND) described the Arctic Bay-Admiralty Inlet research project which was to monitor effects of ship sounds on the movement of wildlife and the attenuation spread of ship sounds in Baffin Bay and Lancaster Sound. The programme was conducted with the help of the

people of Arctic Bay and L.G.L. consultants. In summary: seals congregated at the stern of vessels, belugas were very nervous and left the area for 35-40 hours after which they returned; narwhal remained in close proximity; have recorded but not yet fully analysed mammal vocalizations in the area, noted that "click series" statistics increased as the ships noise increased; analysis of the project not yet completed or funded.

Resolute, NWT

19 October 1983

Noise

Lucien (BRIA) suggested that noise had driven off bowhead whales, seals and narwhals from Arctic Bay to Igloolik and they likely would never return.

Davis (Dome) indicated that several studies have been conducted on bowheads and on white whales in the Beaufort Sea. This information will be presented at Inuvik. He told the panel that observations show that if a noise source is stationary the whales won't move. They may react if close, a range of 3-4 kilometers, by swimming off to the side or ahead of the ship. The whales return to normal behaviour in 2-3 hours. Some habituation may have occured.

In the Mackenzie Delta the distribution of animals appears to be unaffected. The relevance of noise is not clear. The waters are shallow and it is not clear if they hear noise from several kilometers away. It is likely they differentiate between natural ambient noise and artificial (machinery) noise. This, however, does not infer anything about "masking" of noise.

Glen Williams (Arctic Bay) passed unpublished Inuit knowledge to the panel. An unexplained increase of narwhal occured at Agu Bay in 1979, some 100 to 150 animals were trapped. Each year since 1980 narwhal have been appearing in Igloolik and during 1983 narwhal appeared in Gjoa Haven for the first time in living memory. It is possible there are more trapped in isolated areas. There is a direct relationship between shipping, noise and migration. (Davis (Dome) suggested there are other ways of looking at the reported incidents. Freeman, in his "Land Use and Occupancy" studies indicated that pre 1965 the Inuit of Igloolik discussed narwhal hunting at the west end of Fury and Hecla Straits, and said the animals came from the west during 1965-74, the areas changed somewhat, and the migration pattern remained the same but numbers started to increase possibly because of Admiralty Inlet activities. Arctic Bay statistics show a decline in 1977-78-79, however hunters almost always reached their quota each year. It is not clear from available information what has happened. There has been an increase of bowhead whales, with a population centered in northern Hudson's Bay. The distribution patterns are not well understood.)

Nichols (DFO) entered into the record "The Effects of Vessels on Narwhals" by Mansfield. This slim volume has been specially prepared to help reach decisions. It examines the scale and frequency of traffic to the year 2000, likely effects, changes in activities of marine life and the kinds of research to answer questions.

David Kudluk noted that if the whales at Igloolik came from the west, they must have been driven off by tankers going into Nanisivik. Seals have sensitive hearing and would be effected by oil spills.

Thomas Suluk expressed concern over the anticipated effects of noise on wildlife. He is most concerned with the aspects of social impacts which might occur and these must be given serious consideration. The Inuit want input into the proposal and want time to give their views.

The Effects of Icebreaking on Ice Patterns

Ben Danielowicz (Dome) discussed the crossings of icebreaker tracks. Local hunters and trappers from Tuktoyaktuk, Paulatuk, Holman, Sachs, Arctic Bay, Grise Fiord and Resolute Bay were used and the tests showed the following results:

- November - the ice is still thin. This is the earliest time for ice travel. Ship track could be crossed by foot in one hour, by skidoo in 2 hours.
- March - ship track could be crossed almost immediately.
- June (8) - weather mild, above freezing, melting. Crossed within 45 minutes. No casualties.

(The panel asked if water refroze after the June passage when the water temperature was 2°C). Ice blocks locked together, as their core centre was colder than air temperatures.

Lucien (BRIA) asked if the track is going to be continuously used reagrdless of how thick the ice becomes. (The proponents noted there are limits to the thickness of ice ships can pass through. The track can be used up to 5 times, but this is subject to final confirmation using bigger ships. Although ice moves in Lancaster Sound, ships have to stay in a corridor one or two miles wide as in Price of Wales Straits. Navigational aids will be used to maintain the ship's tracks and ship's position.)

Sharon Edmonds (LIA) cited icebreaker trials at Lake Melville where the operators used flags to mark the ship's track. Section 242 of the Criminal Code of Canada states "anyone who causes an opening in the ice and causes someone to fall in may be guilty of manslaughter". (The proponents will comply with all government regulations.) Bill Mair (DOE) advised the panel that the reason the track from Rigolet to Goose Bay was marked was to identify the track for a repeat of tests in March.) It was set out for the safety of people. Tracks should be flagged.

Glen Williams (Submission RB-17) commented on a second passage of the M.V. Arctic down a test track and noted in June that ice blocks were broken down into smaller blocks, propeller wash did not jam ice together, the higher speed caused a bow wave. The resulting wake shattered ice on either side of the track. (Dome noted the M.V. Arctic's performance is not comparable with the performance of an icebreaking tanker.)

Jeff Gilmore (GNWT) closely questioned the proponents on their ice testing program. (The proponents explained that ship tracks could be 80 meters wide or wider as a result of continuous navigation. Crossing tracks would be no more difficult than crossing natural ridges. Mitigative measures which could be used to help people crossing tracks include issuing radio advisories, lending transponders to skidoo operators. Standard operational practice in the Arctic is to stop at a ridge or crack to test if it seems to be safe then cross and so it is unlikely hunters and trappers will fall into open water in ship tracks.)

Nesbitt (BRIA) questioned the validity of the ship track crossing tests in Beaufort Sea since ice in Lancaster Sound appears to be different. There is a high risk and a need to prove that crossings are safe. (The proponents are confident that the experience gained in the Beaufort Sea will be similar to Lancaster Sound. Ship track crossing tests will be conducted in Lancaster Sound when ships are available.)

Arctic Bay representatives suggested that icebreaking in Admiralty Inlet, which is perpendicular to natural cracks, allows smaller ice sheets to move out of the Inlet more rapidly. Icebreaking in Lancaster Sound could hamper full ice formation and speed up break-up. (The proponents indicated that the tankers would probably follow a route north of the centre of Lancaster Sound, where the ice is thinner, which would not affect break-up the same as a more central route through thicker ice. DIAND noted that icebreaking causes an enlargement of natural cracks perpendicular to the ship's track.)

- Effects of Ship Wakes on Wildlife

Arctic Bay recommended that research be initiated to investigate the potential of flooding seal birth lairs by ship's wakes on newly born pups. (The proponents indicated they have not observed this occuring but are committed to carrying out necessary research.)

- Effects on Hunting and Travel

Residents from Arctic Bay, Pond Inlet, Grise Fiord and Resolute indicated that due to the different ice and current configurations in Lancaster Sound and Barrow Strait that the ship track crossing experiments in McKinley Bay are not necessarily applicable to this region and appropriate research should be carried out. (The proponents will conduct research in the area when an appropriate vessel, such as the proposed Arctic Class 10 icebreaker, becomes available. The proponents are willing to provide radios and radio reports to ensure hunters know when a ship is in the vicinity and provide hunters transponders so ships can identify if hunters are in the vicinity.)

- Research

BRIA suggested a long-term research program to provide emperical verification of the potential effects of icebreaking on the region and this should be done before the project proceeds. Residents stressed the importance of using local experience and knowledge in conducting this research. (The proponents stated their continued commitment to long and short-term research and consulting local people, citing EAMES, BIOS, APP and M.V. Arctic research as some samples. Once backing can be obtained for an Arctic Class 10 icebreaker, it will be built to assist in this research, prior to project approval, and provide training opportunities in ship jobs for northerners.)

Environmental Assessment

Pond Inlet HTA asked if the project would be stopped and abandonned if it was found the sea mammals were driven away by shipping or if ship accidents occured. (The proponents do not believe that harmful effects will result from the project, however, they will continuously monitor its effects. The proponents would not decide, on their own, to stop the project but will consult with all interested parties and it would be up to the government to decide. In the case of a design failure in the ships, i.e. an accident, the proponents would stop the project until they are satisfied that the designed problem has been fixed.)

Supporting Onshore Development

National Museum of Man noted that improved access has resulted in souvenir collectors damaging northern archeological sites and before increased access is provided by the project archeological resources need to be assessed and protection and management programs put in place. (The proponents have held discussions with the Museum of Man on this subject.)

Community and Socio-Economic Effects

The Panel Chairman introduced the topic noting that the community sessions the panel heard many socio-economic concerns of the residents. They believe their lifestyle will be affected by the proposed development, it will impinge upon their livelihood on land and sea. The panel will look at the effects in a structured way to help focus on specific concerns identified through information provided by intervenors and other means of communications during the past 2 years.

Ken Harper (Dome) explained that the proponents have noted the transition of communities of the Parry Channel and are aware of their needs and aspirations, their commitments to hunting, fishing and trapping, and, the importance of hunting of country food to the Inuit . It is the touchstone to the society and membership as

a whole, it is through this that they maintain their cultural identity. The hunting economy seems to have changed over the years. There has been an increase in harvesting activities with more sales of skins but less utilization of meat. Access to employment and cash income has improved the wage economy which is now the major support of the community. It is estimated 20% to 37% of the gross income of the communities is derived from hunting. Communities state that education is their number one priority, they want more and better quality. The proponents view employment as one facet in a multi-facetted approach to the resolution of the problems of the region. The proponents want to try to identify jobs so that the communities will find "what's in it for them".

Lucien (BRIA) asked if alcohol problems were considered in the report. (Harper noted the "Green Paper" indicates the problem would increase in the Eastern Arctic. Statistics indicate alcohol abuse has increased relative to disposable income. But the abuse does not follow a pattern. People predicted Arctic Bay would experience tremendous social problems. Statistics show that this is not the case despite its proximity to major developments.)

In response to questions about impacts on wildlife harvesting and jobs the proponents stated they are guided by the fact that northern developments are encouraged on condition that the northern environment remains protected and benefits to northerners are maximized. They are abiding by these policies. Harper's presentation was closely questioned particularly the under utilization of meat as a result of kills made from skidoos. Cash income figures were queried and the Lancaster Sound Green Paper was cited as the reference of choice.

The narwhal harvest and the effects of marine noise of the animals was discussed. (The proponents noted there could be some impact on the communities if quotas were reduced. Noted that scar rates were very high - 25% to 44% had bullet wounds from previous years. A decrease of local narwhal could result in some economic hardship.)

Tom Strong (DFO) gave some statistics for narwhal hunts:

1982	floe-edge	14 struck 6 landed 3 superficially wounded
	crack in ice	3 struck 1 landed 2 wounded
	open water	26 struck 10 landed 11 wounded

1983	floe-edge	5 struck 1 landed 2 wounded
	crack in ice	17 struck 13 landed 2 wounded
	open water	2 struck 0 landed

Lucien (BRIA) asked for comments on the possibility that Inuit lifestyles have changed since Nanisivik mine started. (Harper explained that Arctic Bay and Pond Inlet have benefitted financially from PanArctic employment programmes. They are the 2 main communities where workers have keen hired for 11 years, resulting in a total increase of community income. Some adverse impacts have been social consequences - separation from families, some alcohol, employers employ the best they can get which is a drain on the leadership of a community. The gloomy future many predicted did not materialize.)

Resolute, N.W.T.
20 October 1983

Community and Socio-Economic Effects

The proponents noted they are close to discovering economic reserves for oil production on a pilot scale from the Beaufort Sea. Provided these reserves are established and an application for regulatory approvals is submitted in 1984 and regulatory approvals are received in 2 years, construction would take 2 to 3 years so that production could start up by 1988.

- Effects on Northern Peoples

ITC (Thomas Suluq) noted that the hearings forum has made it difficult for Inuit to participate, due to language and cultural barriers, while non-native experts have been discussing community life and making conclusions about the effect of development on the Inuit. The proponents should be providing local people job and business opportunities as a matter of conscience and should not be offering it as a gift to residents. Inuit people want to be directly involved in the management of northern development, including research, economic development, etc., and a land claims settlement should move Inuit from their current advisory role to a decision-making role. "We are tired of being advisors in our own land." Once this is the case, rather than follow an adversarial process, industry and Inuit could operate as a joint venture arrangement to participate in development. In this way Inuit interests would be met so that traditional and/or wage lifestyles could be persued by Inuit. (The Panel Chairman requested that ITC be prepared to discuss land claims at the general management session in Ottawa, as it relates to socio-economic concerns about tanker traffic in the Northwest Passage).

BRIA (Tom Nesbitt) outlined its harvesting study, stressing the continuing importance of harvesting to the economic, physical and social well-being of the Inuit in the Baffin Region. Almost half the edible meat harvest estimated for the Baffin Region is derived from marine mammals. In addition to the value of the hunt, such as furs, tusks, horns, etc., and sports hunting opportunities, wildlife harvesting is the touchstone for the Inuit.

Inuvik, N.W.T.

9 November 1983

The panel chairman introduced the panel and gave a summary of the panel's activities and comments provided at community and general sessions.

The proponents (Submission IN-18) noted that development should take place slowly but steadily. The proponents are using innovative but proven tachnology and are continuing to conduct research into all matters related to the Beaufort Sea Development particularly environmental and socio-economic concerns. The development and production of a viable oil industry in the Beaufort Sea is still many years off. Environmentally critical areas are being discussed and protection methods assessed. The proponents have been operating in severe conditions for twenty years and have this operational experience plus the actual experience of production in Alaska. There have been some environmental effects but these have been localized and no noticeable effects on wildlife have occurred. Using current technology the project could safely proceed at this time however more reserach would be helpful. The proponents have far too many northern personnel on the payroll to ignore potential impacts on northern communities. The opportunities from development can be used as an instrument for positive change and continued consultation and cooperation with all parties. Two modes of transportation, pipeline and/or tanker, are under consideration. They are not seen as competing alternatives. Each system may be acceptable.

Neil Faulkner (ADM, Northern Affairs Program, DIAND-Submission IN-21) made a lengthy presentation and clarified DIAND policy for the panel. The Department wants, as Northerners do, northern opportunities and quality jobs.

- The recent North Slope decision was difficult but it was one taken so as not to jeopardize the claims settlement negotiations which are nearing conclusion. The Minister did not need any further delay of claims negotiations. This decision is not a decision against development.

- The NOGAP policy illustrated government's ability to manage Beaufort Sea development. The Norman Wells project is a model to gauge future management systems by; a firm coordination mechanism must be in place to deal with the "Regulatory Jungle".

- Monitoring and tracking is not adequate at the moment. Environmental, social and economic impacts have to be studied and impacts mitigated, all these impacts are manageable.

Jim Robertson (Mayor, Inuvik-Submission IN-19) commented briefly that Inuvik has seen all of the northern hearings and suggested that the north has seen far too many of them and it is time for a change.

Jim Bourque (Deputy Minister, Renewable Resources, Government of the N.W.T.-Submission IN-20) stated that the Executive Council of the G.N.W.T. passed a motion stating its support for the preservation of native culture and lifestyle. The renewable resource based economy is an important sector in this preservation. The Executive Council and the Government

of the N.W.T. fully support phased development on the condition that benefits out-weigh the costs. Developments have to be balanced so as to insulate Northerners from boom and bust cycles. There must also be compensation for damages and restoration must be guaranteed.

Paul Mudie (Deputy Minister, Health and Social Services, Government of the N.W.T.) assured the panel that the Executive Council of the G.N.W.T. fully supports Beaufort Sea Developments; opportunities can be enhanced and impacts managed. Jobs, training and business opportunities must be found for Western Arctic communities but at a scale and sensitivity to the ability of communities to manage change. Long terms growth can only be tolerated when it is acceptable to the communities. There is a need for trained human resources and financial resources at the municipal level. It is the G.N.W.T's intention to identify their concerns and experiences resulting from the activities of the Norman Wells Project.

Chris Pearson (Government Leader, Government of the Yukon Territory-Submission IN-1) noted:

- the North Slope developments would have cleared the way for Yukon's involvement in the Beaufort Sea. The Minister of DIAND's announcement came as a very heavy blow, it is a slap in the face for all concerned.

- the Yukon Territorial Government fully supports Beaufort Sea Development because it will create an economic base. The Yukon has been severely shaken by the Federal Governments non-cooperative attitude and all concerned should rise to the challenge of the responsibility for northern development.

Albert Elias (Executive Director, Beaufort/Delta DIZ Group-Submission IN-23) suggested that there are grave engvironmental threats posed by Beaufort Sea Developments, particularly tanker traffic. The DIZ Group opposes tanker traffic through Prince of Wales Strait and recommentds a pipeline south. Support for the pipeline is, however, qualified because certain details remain unclear at this time. There must be increased cooperation between all parties involved in the Beaufort Sea Developments. So far the project has been uncoordinated. There must be coordination to ensure a flow of benefits to the people in the North. There is much to be done at the community level particularly in consultation. The panel's job is not yet done, in fact, they must come back and talk once the final report has been submitted.

Herb Lawler (Director General, Department of Fisheries and Oceans-Submission IN-15) noted that the Department could prohibit some activities on the basis of protecting the marine environment. On-land development may be better because it is more clearly understood. The safety of a port facility has not yet been assessed, particularly the difficulties with oil spill clean-ups.

Andrew MacPherson (Director General Department of Environment) noted that four volumes of review have been presented to the panel outlining specific strategies and concerns of DOE.

- DOE wants a comprehensive statement and policy on northern development to be enunciated.

- a regional planning system must be implemented immediately in order to avoid cumulative impacts. This is urgently required particularly for impacts on socio-economic and environmental matters.

- there is much government planning required and resources need to be made available to communities to prepare for development.

- government management systems need to be in place to guide industry in developing their Beaufort Sea development proposal because they form the planning framework. These must be ready by mid-1985.

- development has to be implemented over several years in a phased manner. Small projects will allow the mitigation of impacts on the community and environment and give more time for research and development.

- an integrated regulatory framework system is required for approvals, inspections and monitoring. This currently is not organized and there is a lack of planning for phased development.

- pipelines offer fewer risks and should be used exclusively until tankers are proved out. There is a possibility of major oil spills from tankers together with noise impacts on the sea mammals. The proponents also lack effective oil spill clean-up measures.

- there is a need to amend or create and implement various regulations e.g. the taking of granular materials, the reclamation and replacement of disposed materials.

- there is a need for environmental review processes for exploratory programs. This would give additional input into planning processes.

Dick Hill (Executive Director of the Inuvik and District Chamber of Commerce-Submission IN-22) requested a well managed project so that benefits will flow to the North. The G.N.W.T. Resource Development Policy is fully supported. Heavy emphasis has been placed on the possiblity of oil spills yet socio-economic effects have been treated lightly. Five billion dollars have been spent so far on oil spill exercises and the same should be spent on social problems. More government programs are not needed but effective management of existing ones will assist industry and communities. An office is needed to take direct responsibility for the management and administration of the project; a coordinator and staff.

Inuvik, N.W.T.

10 November 1983

Offshore Production Islands, Sub-Sea Pipelines and Tankers

The proponents (Ken Croasdale) spoke on the technology and construction of offshore platforms. The design criteria issues are ice and wave action, berm slopes and platform strength. The proponents have conducted research on ice movement within land fast ice and upon offshore ice. They have noted that multi-year ice is ridged with keels up to twenty metres deep, and is less saline and much harder than new ice. There are no iceberg problems in the Beaufort Sea. The nature of ice strengths and mechanics are being extensively studied at Hans Island, in the Kennedy Channel, and the results indicate a research breakthrough for the future designs for Beaufort Sea production islands. There is a progressive development in production island technology through research and experience with Esso's caisson retained island and the Dome SSDC. Sub-sea and the overland pipeline technology is well established. The possibility of "scour" and permafrost action disturbing pipelines is a concern. Trenching will minimize damage, and can be done using established technology and available equipment. The proposed IBT is double-hulled has double-power plants, will use inert gas safety systems, and will have a built-in monitoring system to avoid the failure of the vessel. Extensive sea trials will be carried out under all conditions and under the scrutiny of the appropriate regulatory agencies and classification societies.

Phil Cohen (DOE-Submission IN-25) noted the Alyeska Pipeline has had six times more spills than originally predicted. (The proponents noted the pipe for the Alyeska line was designed and purchased prior to the detailed design of the system. It was designed for internal pressures and not for thaw settlements thus it was elevated where there was a chance of settlement and buried where little settlement was expected. The proponent's line is designed to accommodate a differential settlement of .9 metres and where settlement of more than 3 feet is anticipated it will be elevated. Settlement of 18 inches to 24 inches can readily be detected from the air. Remedial action will be taken as appropriate. The proponent's safety factor is considerably greater than Alyeska's. The Panel noted that settlement tolerances in the shore approaches is 3 metres. The proponents responded that the pipe in this area is thicker and has a protective casing added plus the soils are usually weaker.

Brett Moore (DOE) asked about the limitations for leak detection on single phased transmission and two phased gathering systems. (The proponents noted single phased fluids are detected by: mass flow comparison where the flow-in and flow-out are monitored and compared so that .5% variation of the daily flow results in an investigation; instant ruptures or large leaks (one inch diameter) are detected by acoustical/shock wave instrumentation and the system is instantly shut down; intelligent "pigs" pick up the high frequency sonics of leaks; and, surveillance and reconnaissance of the pipeline. Two-phase systems are not so accurately monitored because they carry gases as well as the fluids. These transmissions are controlled by instrumentation and the history of flows maintained. Lines are pressure tested annually while "pigs" are routinely run through to check wall thicknesses. The leak detection system will monitor the transmissions in the lines from day 1, on a regular basis so that problems will be detected rapidly.

Eric Tull (Beaufort Sea Alliance) asked the following questions:

- in the event of a blow-out, is drilling a relief well from an ice pad or ship viable in a rubble field. (The proponents noted relief wells may be drilled by ship in summer or by a ship within a rubble field or from a pad similar to that tested in Uviluk Island.)

- will the proponents consider specific safety measures during ship design. (The proponents indicated any project will be designed as safely as possible. Do not take safety lightly and will adopt measures to ensure safety.)

- will the proponents need rock for production islands. (The proponents will install rock on artificial islands as a safety measure.)

- what will be the oil temperature flowing from the sub-sea system. (The proponents observed the oil flows will generally be below the freezing point.)

- will the tankers sail in waters less than 40 metres deep. (The proponents are constrained by available charts, the Hydrographic Service is surveying the shipping route and the vessel will sail in this corridor. Much survey work has been completed.)

- has the Alaska tanker route, the western passage, been dropped and will there be more hearings on this route. (The proponents priority is the Northwest Passage, through the Parry Channel, to the east coast. Many ships presently use the western passage.)

- if the proposed prototype tanker demonstrates environmental problems will the proponents go to a pipeline. (The proponents have much ice breaking experience, have conducted much research and have yet to see indications of any significant environmental impacts. If problems are identified at an early stage, through built-in monitoring programs, the proponents will then employ mitigative measures.)

Bruce Switzer (DOE) asked if drifting snow could hide warm oil pipeline subsidence. (The proponents explained that subsidence is a slow progressive process which takes two to five years and slows down thereafter. It is monitored throughout the year and repaired in summer.) How will subsidence offshore and in shallow lakes be identified. (The proponents will use devices to internally monitor the curvatures and determine stress and strain on the pipeline. No fresh water lakes will be crossed.)

Mike Smith (panel technical expert) asked about the safety factor for more than 2 metre shearing length during thaw settlement. (The proponents noted settlement occurs for a number of years. There is adequate time to take remedial action and this depends on the rate of settlement. Action can be taken immediately if necessary. Acoustic devices are used to monitor settlement and will use divers to examine sub-sea lines. Areas of concern are the shore approaches where permafrost is encountered at 2 or 3 metres below the surface. Further offshore the permafrost drops off with sea depth. Problem shore areas may be avoided by careful route location. In addition, insulation around the pipe can be increased and stability maintained by back filling with stable granular material.) What sort of settlement problems will be encountered with production structure foundations. (The proponents noted this area needs some more work, however, methods are well established e.g. Prudhoe Bay facilities. The panel noted that production wells may be close together and queried the possibility of soil subsidence in ice beds under production platforms. The proponents are confident they now have the techniques to adequately assess these areas and believe they know what they are doing.

Bond (panel technical expert) asked how reduction of ship resistance during operations would be achieved. (The proponents indicated a very strong ice resistent coating, similar to epoxy/polyurethane, will be sprayed on the haul. This was developed by the Finns and Russians and is used extensively by the USCG. It gives a 90% performance which is considered satisfactory. All Dome vessels have been retrofitted with this coating.) Will a class 10 icebreaker be built to verify Dome's design concepts before an icebreaking tanker is built. (The proponents noted this is under consideration. They would test before the IBT is built and learn lessons this way.) What are the third party financial liabilities for oil spill compensation. (The proponents indicated this is covered by the Arctic Waters Pollution Prevention Act for pollution from a ship and the Canada Oil and Gas Act, for pollution from an offshore installation. There is a forty million dollar liability in the COGA. The relevant liabilities section in the AWPPA is apparently under review. The liability section in the AWPPA is "open ended".

Greisman (panel technical expert) asked what production unit would be used in thirty metres of water and what will happen when multi-year ice hits it. (The proponents will use a caisson structure which can withstand 7 metres or more of ice. The proponents are researching this on the Hans Island Project.)

Cohen (DOE) asked about safety factors for offshore storage facilities. (The proponents indicated there will be no large volumes of oil stored offshore. Those supplies that have been stored so far have presented no problems. Production Islands would have the same double wall protection as IBTs thus contain any spill.)

Moore (DOE) asked what percentage of product would be released in a 2-phase sub-sea pipe line leak. (The proponents indicated .5%. Testing determines pipe conditions and there are checks for corrosion. Also, internal listening devices are used to hear leaks. Background noise is a chronic problem but this is a viable technique.)

Smith (panel technical expert) noted the design trenching depth is seven metres for fifty-one kilometres of sub-sea pipelines to protect against "scour" damage. (The proponents have demonstrated the low chance of failure and scour encounter. Research will continue but it is feasible and entirely practical to deal with scour using available equipment. The proponents will do a sensitivity study if government requires them to go to 8 or 9 metres depth. This is costly and time consuming. Other techniques are more cost effective e.g. directional drilling, dredging and ploughing.)

Gilmore (GNWT) asked if there are examples of the proposed single point mooring terminal in operation. (The proponents noted this is a very popular terminal throughout the world which saves on harbour developments. It is very a flexible approach to loading. The terminal could be another vessel. Storage capacity would be 1.75 times the capacity of an IBT, 2.6 million barrels.) Who approves the loading site for terminal. (CCG noted it depends if it's a floating or fixed structure. If fixed, it becomes a navigable structure and would come under CCG. Shipping Act, TERMPOL Code Navigable Waters Proection Act, COGA and a classification society. If floating, would then approve through CCG, COGLA and classification society. It would be monitored by CCG.) Who approves safety and monitoring procedures prior to development. (The proponents observed that procedures will be enforced prior to operations. Approval is through the TERMPOL Code process to which the proponents are committed and will abide.) GNWT is not represented at TERMPOL.

Smiley (DFO) addressed the adequacy of hydrographic charts and services along the Parry Channel and the Beaufort Sea and indicated there is a requirement for additional work, another ten years, still to be done in the Mackenzie Delta. Much work has been done by the "Hudson" but the tanker corridor needs expansion to 20 miles wide. Government and industry should share charting responsibilities.

The panel chairman asked about the probable affect of seismic activity on offshore islands. (The proponents indicated seismic acitivity will not control the design of artificial islands or other facilities since epicentres are beyond the two hundred metre mark and there are no active fault zones in the area.)

The panel asked about the possibility of ice pressure pushing and SSDC off its berm. (The proponents noted the SSDC is designed to withstand extreme pressure. Would consider moving it off in extreme ice conditions particularly if ice is closing at a velocity of more than 1 metre per second. The slope of the berm is designed to dissipate the kinetic energy before it hits the SSDC, causing the ice to fail as has been observed at Hans Island. The EIS addresses ice-island pressures upon artificial islands using scenarios that are signigicantly more severe than anything encountered to date.)

The panel indicated the EIS shows some oils have high viscosity at low temperatures and sometimes form gels at high temperatures. The oil from Issungak has pour points of 4°C or 5°C and below that it becomes a semi-solid. (The proponents believe that Issungak oil has good pumping and pour point qualities.)

Risk Analysis

Brett Moore (DOE) observed that world statistics indicate increasing oil spill trends. The proponents have experienced difficulties with eight exploratory wells in the Beaufort. It is good luck and not good planning that there were no oil spills and it appears the risk of spills increases as production goes up. (The proponents noted that each well drilled provides much data and the proponent's learn how to handle each well from this data. Staff are well trained and are encouraged to have a very positive attitude throughout the drilling operation. This also prevents a blow-out. Efforts are made in the Beaufort Sea to ensure experienced staff are placed in jobs so that problems do not occur.)

Phil Cohen (DOE) stated that analysis of the proponent's estimate of the risk of an oil spill in the production zone of the Beaufort Sea shows an increase during the lifetime of the project. There is a 34% chance of an oil spill. (The panel technical expert suggested the proponent's figures allow people to focus in on problems rather than on numbers: the major cause of failures of undersea pipelines are ships anchors which account for 80% of failures, and, of this percentage some 50% are caused by construction-related equipment; and, there may be a built-in bias in the database because of old pipelines and old technologies in current use, elimination of "old" data would yield extreme biases in favour of the "state of the art" equipment planned for the Beaufort Sea. Analysts should examine those pipelines built in the past five years and exclude anchor damage. The panel noted there is a 38% chance of an oil spill greater than 100,000 barrels.)

Inuvik, NWT

12 November 1983

Oil Spills

Tull (BSA) noted the proponents believe they can achieve twenty-five parts per million (PPM) or less of oil in the produced water rather than the fifty PPM originally anticipated and less than the thrity-five regulatory limit. (The proponents stated that produced water will be cleaned before discharge or will be reused/recycled to the well.)

The proponents noted the case of vandalism and theft at Cape Farewell waste oil storage tank where valves were left open. (The panel noted that security is a modern concern and acts of sabotage and associated risks are hard to calculate.) Off-shore security is handled through controlled access; fencing is routinely placed around processing equipment; radio repeater stations are used to detect non-functioning equipment.

The proponents explained that Esso has drilled ninety-one wells, with no blow-outs; Gulf has drilled thrity wells with no blow-outs; and Dome has drilled thrity-six wells, with one water blow-out in the Beaufort Sea area. Steps have been taken to prevent future blow-outs. The proponents believe if they drill forty-five thousand wells in the Beaufort Sea the statistics will show the same level of risk.

Warren Bond (panel technical expert) noted the "International Convention for the Prevention of Pollution, 1973," with the associated "Intervention Protocol" are the regulations controlling international shipping. This does not prohibit the movement of ships through the Northwest Passage. The "Law of the Sea Convention" gives the international owner the right of innocent passage through the Parry Channel Northwest Passage. The Arctic Waters Pollution Prevention Act provides a limited control zone of one hundred miles which is enforced by the CCG. Ships have to be surveyed and certified by their Flag States.

Fleck (GNWT) questioned oil spill clean-ups under difficult conditions and the use of dispersants. (The proponents have tested the dispersants on weathered oil and it appears to be effective though no data is yet available. Contingency plans do not approach oil spills in an ad hoc way. Pre-approval is needed to use dispersants in the Beaufort Sea Area. In moving pack ice the oil would be burnt in-situ, whilst the remainder would be tracked, eventually destroyed, and any shoreline cleaned up. Oil spill exercises have been successful - eighty percent of the oil has been accounted for through evaporation, burning and cleanup. Oil spill contingency plans are a permit requirement by COGLA through the five year drilling agreements. These are re-submitted annually before drilling commences. New plans for "production" will have to be developed. The panel noted the use of dispersants depend on the type of oil and degree of oil weathering. In the Beaufort Sea oil is colder and thicker and will thus weather slowly. Depending on sea states the dispersal will take longer, though much depends on how dispersnats are introduced.)

Meikle (DOE) provided departmental perceptions on oilspill clean-up capabilities:

- Oil spill booms move with currents;
- Clean-up in drifting ice does not seem practical. Experiments show twenty five percent to ninety five percent can be burned off;
- Air dropped dispersant experiments show these to be most practical;
- Sensitive areas have been identified but in the case of clean-ups the required numbers of men, equipment etc. has not been identified; and
- Extent of contamination cannot be assessed.

Inuvik, N.W.T.

14 November 1983

Oil Spills

Greisman (panel technical expert) noted that the United States Coast Guard (USCG) and Dome have a joint oil spill movement research project using buoys tracked by satellites. Positions are checked every seven days to show variability of currents. A buoy launched on the Canadian side crossed the international boundary indicating that oil spills may affect the Alaskan area. However, there are some trajectory difficulties because of wind and current affects on the buoys. On examination of the wind data from ocean station "Bravo" it has been concluded that offshore oil spills are unlikely to come ashore on the Labrador Coast. Currents have little influence. (Clark (DFO, Bedford Institute) indicated the real problem with wind in the Labrador Sea is the poor information available. If the IBT remains offshore in the warm Labrador current it is unlikely if any oil spill will come ashore. The Labrador current will offer a supporting current of 1 to 2 knots plus shelter within the ice pack from high seas and icing.)

The proponents reviewed safety devices in drilling including drilling procedures, drilling fluids, blow-out preventors (BOP), training and alertness of crews to prevent blow-outs, shear-off valves that automatically shut and prevent blow-outs, daily testing of BOP's and placing BOPs on island surfaces or in holes dredged in the sea floor for added protection. (Moore (DOE) asked about a blow-out through the side of the casing.) The proponents explained this happens with natural gas wells, probably because there is less ground integrity in the first 1,000 feet, gas escapes outside the first string. Valves will slow the flow and increased fluids will bring the well back under control.

MacWatt (Beaufort Sea Environmental Support Services Company - Submission IN16) has been involved with oil spill work for 10 years. The level of competency attained by the local people is climbing. The oil spill equipment is owned by the proponents. If called to an oil spill the proponents contingency plan comes into play and the company reports directly to the on-scene commander. The company is part of the team and, like any contractor, they select and train their own workers. The company operates on contract to the proponents and with the Beaufort Sea Cooperative. Proponents supply the training as required and all technical support. (The panel asked what recommendations are needed to provide an incentive to do a first class clean-up job, to be self-policing rather than regulated, and what happens in the event of cross border oil spills.) Services could be extended very quickly in an emergency although this could cause jurisdictional problems. (The proponents will work through the appropriate infrastructure on both sides of the border to ensure adequate response.)

Hill (Inuvik Chamber of Commerce) supports involvement of northerners in oil spill clean-ups. Too many fingers in the clean-up pie could lead to disputes and there already is too much outside non-involved interference, particularly in oil spills. (The proponents are required to demonstrate their capability in responding to an oil spill. They rely on the Beaufort Sea Cooperative and on Beaufort Environment Support Services Company and have an on-going training program for them. The same infrastructure will be used to support production plans.)

Marr (CCG) outlined the Canadian Coast Guard's contingency plan for cross-border spills:

when an oil spill crosses an international border CCG becomes the lead agency;

joint plans come into effect;

joint teams control and meet on a regular basis;

equipment and financial arrangements are made;

clear "customs" for equipment; and

people and equipment can be used on both sides of the border.

(Greisman (panel technical expert) asked about US clean-up equipment. The proponents noted Prudhoe Bay has extensive equipment stored and available if needed. Switzer (DOE) inquired if response must wait until oil slick crosses the border.) Lead time is given as far as possible including necessary alert messages and arranging for orders in council. Each country can activate the plan for immediate action.

The panel asked how far are the western Arctic wells from clean-up supply depots. (The proponents have most of the equipment as required and as authorized by COGLA and other agencies. Depots are in Tuk, Stokes Point, McKinley Bay, Cape Parry, on all offshore artificial islands, all ships in the Beaufort Sea fleet, plus a trained staff who regularly carry out exercises. It can take 30 to 40 minutes to respond by helicopter.) The panel noted the proponents presently get PIP grants but what about when production starts, what incentives do you need to ensure clean-up. (The proponents had caches of equipment before PIP came on th scene plus there is a legal liability to clean up.)

Environmental Effects of Onshore Production Systems

The proponents stated the environmental effects of onshore production systems are limited and manageable. Direct disruption to the environment cannot be avoided but can be minimized, for instance, waste liquids can be injected into deep wells, and small quantities of hazardous waste would be taken south. Catastrophic direct impact, such as a major oil spill, has a very low probability of occuring and response mechanisms are in place. Indirect effects include increased access to wildlife through the cleared right of way and larger numbers of hunters. Cumulative or synergistic impacts would be worse than individual events. The only way to combat this creeping change will be for all parties to work together over time. DIAND's Beaufort Sea Environmental Monitoring Program was a useful example of this activitiy.

Lawrence (DFO) asked about procedures to handle disposal of produced water on land. (The proponents will reinject all produced water and not discharge to local water carriers.) Could there be specific or localized problems of produced water even if there was no problem related to water draw down in the Delta, such as a topping plant at Atkinson Point. (The proponents replied that they had looked at an Atkinson topping plant and have done limited feasibility studies on water supply from one lake. There would be a small winter intake.) This could be one area that might have to be regulated and/or controlled.

GNWT asked if a topping plant was proposed. (The proponents said it was under consideration but no decision had been reached. They could build a plant in two to three years and have talked about possibly 1986. The proponents would need an economically viable project before this. A decision on a topping plant should be within a year.)

On-land Gathering Systems

Smith (panel technical expert) felt that terrain disturbances had been treated lightly in the EIS. While the proponent's studies detail wide spread ground ice instability, the proponents conclude that they can build an environmentally acceptable pipeline. (The proponents reiterated that based on knowledge of soils, crude oil properties and design criteria, the line can be built safely.) What about winter pipeline construction methods. (The proponents reviewed the 1974 Inuvik experiments on snow/ice roads and the Foothills test facility at Quill Creek, and concluded that snow/ice roads would be an environmentally acceptable technique.)

Tull (BSA-Submission IN-7) asked if an east of Franklin route was considered for an overland line. (The proponents considered this but it was not selected due primarily to logistical concerns.) How will clearing trees and shrubs from the right of way be done and where will herbicides be used. (The proponents noted the gathering system would be in the tundra, therefore, no clearing would be needed. Elsewhere, machine clearing would be done, no herbicides will be used, and slash piles will ultimately be burned.) The Delta is a very significant natural resource and it should

be protected as a unit. (The panel asked about the boundaries of the Delta and the effect of development on it. The proponents referred to experinece gained from the Taglu gas development project which, according to a 1976 DINAD environmental impact assessment, would be worse off by spreading impacts around and recommended keeping them concentrated). The panel asked if this was still the DIAND view especially with respect to the Beaufort Sea development. Ferris (DIAND) responded tentatively that this dealt with biological effects. The panel felt strongly that the boundaries of the Delta should be defined e.g. the northeast side was especially complex.) The area of concern seems to be west of Richards Island but the boundaries are vague and should be specified.

Inuvik, NWT

15 November 1983

Shore Bases

Tull (BSA) questioned the need for an extra deep draft port in the Beaufort Sea and suggested dredging McKinley Bay or Tuk Harbour instead of an extra port. (The proponents said they need year-round capability, and define McKinley Bay as an anchorage for their exploration fleet).

The panel asked about land fall points for offshore pipelines coming ashore and, if the proponents were restricted to one shore base for both land fall and deep water facility, where should it be. (The proponents noted the only area would seem to be the North Slope, but the oil is in the Delta. Tuk Harbour and McKinley Bay would still be used but industry would need a third base, it could not survive with only one base).

Fleck (GNWT) noted that all the talk so far was about oil, would the same shore base be used if gas as well as oil was produced. (The proponents indicated this would probably be the case but it depends on the location of reserves.)

Moore (DOE) wondered if the range of options for shore bases had narrowed in light of the oil reserves currently identified. (The proponents indicated that the present circumstances have not reduced the range yet. McKinley Bay will continue to be used as an exploration base for the forseable future.)

Tull (BSA) asked about dredging requirements for an offshore deep water port compared to dredging at McKinley Bay. (The proponents explained you are looking at 200 million cubic metres offshore versus 40 million cubic metres total at McKinley Bay versus 10-12 million cubic metres already dredged out of McKinley Bay).

Roads and Road Usage

Tull (BSA), in reference to a proposed Fort McPherson - King Point road, asked about types of goods to be transported that could not be delivered by water or by winter road. (The proponents explained that if a production site was located on the North Slope, industry would want to maintain an option for such a road; indeed, if Stokes Point was the other site for a production base, industry would probably request consideration of year-round access by public road). Would the mitigative measures agreed to by proponents appply to sub-contactors and if Mount Sedgewick did not go ahead but Kiewit did, would the same mitigative measures apply to Kiewit. (The proponents answered in the affirmative to both questions).

Quarries

Tull (BSA) asked if quarry development on the North Slope was ruled out, would Beaufort Sea development still be viable. (The proponents noted industry needs an additional future shore base with a deep draft and possibly access to rock, therefore the North Slope option should be kept open). Could a quarry at Mount Sedgewick co-exist with the proposed national park. (The proponents acknowledged the concepts are incompatible).

The panel asked, if production started, would a deep draft harbour be mandatory. (The proponents need anchorage for vessels with a deep draft, up to Arctic Class 10 vessels).

Canadian Reindeer Limited made a presentation and showed a National Film Board film on Canadian reindeer, and the development ofthe herd and preserve on Tuk Peninsula. (The panel asked what kind of obstacles would deflect the herd). The herd would go around anything on the ground, anything buried is no problem, anything elevated would be a problem. Reindeer adapt fairly quickly to the presence of humans, machines, etc. because they are semi-domesticated. (The panel asked if caribou and reindeer react differently to helicopters etc) Yes and caribou run whereas reindeer bunch. (Hill (Inuvik Chamber of Commerce) wondered about the possibility of reindeer herding on the Yukon North Slope.) Canadian Reindeer suggested it would be possible; noting reindeer are more intense users of land than caribou and therefore would need more husbandry.

Environmental Effects of Construction Support Camps

Deltor (Inuvik resident) stated that it was the town's position that camps in the Inuvik area should be in areas designated in the town plan, within town limits.

On and Offshore Supply Operations

Lawrence (DFO) asked what dredging would be needed in the Mackenzie system to accomodate increased barge traffic, noting in passing that it was very unlikely that Shallow Bay would be dredged. (The proponents noted the past peak barge traffic volume is 500 thousand tons per year, currently they are using one half of that capacity. Mclaughlin (Dene Nation) said that the 500 thousand tons was an upper limit. The panel wondered, if industry used almost all capacity on the river, would pressure be placed on supplies for towns such as Inuvik. The proponents stressed that all interests will be accommodate. The panel chairman asked if any authority or regulatory mechanisms exist for the barge traffic on the Mackenzie and said that information on a regulatory mechanisms will be requested and explored in the government management section. The proponents conveyed their understanding that DPW/MOT will be blasting the river above Fort Good Hope as this area has been a bottleneck in past years).

Moore (DOE) wondered about the seasonal split in shuttling tonnage within the area, that is, will it be moved at even intervals or summer only for offshore supply of consumables and operating requirements. (The proponents noted most arrives now by barge. In future, considerable amounts could be backhauled by tanker if tankers are used. The panel indicated they would like to have scenarios for anticipated total barge traffic in the Mackenzie area and for details on the flow of consumables etc. at various construction/production stages).

Environmental Impacts of Aircraft Operations

Tull (BSA) asked if King Point development would be viable without the proposed jet strip. (The proponents explained these strips are needed for 737 or 767 traffic, primarily for crew rotation, so this development is not really viable without such a strip).

Beanlands (panel technical expert) asked about proponent plans to study the effect of low flying jet aircraft on caribou. (The proponents noted studies have been done in Alaska and show minimal if any effects).

Summary of Effects on Wildlife

Lawrence (DFO) asked if the proponents had any plans to take account of fish wintering upstream when minor streams were crossed by winter roads. (The proponents know these overwintering locations).

Beanlands (panel technical expert) asked if caribou herds have been affected by the Trans Alaska oil pipeline. (The proponents observed that it would speculative and very difficult to do). On what basis can one judge the success of proposed mitigation measures. (The proponents used the Alaska experience and Dempster work as examples.)

Barry (DOE-CWS) called for continued monitoring as part of learning along the way, refining mitigative measures as we go, and called for detailed studies of traffic effects on wildlife. Conservation responsibilities for migratory birds involve all people in the north, not just industry and government. Northerners have an increasing responsibility for this international resource.

Inuvik, NWT

16 November 1983

Environmental Effects in the Onshore Area on Archaeological Resources

Arnold (Prince of Wales Northern Heritage Centre, GNWT-Submission IN-14) noted the close cooperation between the GNWT and the Archaeological Survey of Canada and asked if industry could implement a policy which prohibited their employees from disturbing archaeological sites. (The proponents will implement such a policy.)

Environmental Assessment

Lawrence (DFO) asked if the proopnents were relying on the results of IPL's studies at Norman Wells to help them prepare for Beaufort Sea development. (The proponewnts plan to use the data but the mitigation measures already proposed for the Beaufort Sea are good. Moore (DOE) suggested that the proponents should use Norman Wells as a case study and use it extensively. The panel asked if it would have access to the specific details of the Norman Wells Environmental Assessment/monitoring program. Moore (DOE) said they would put together a package for the Yellowknife sessions. The proponents said they would talk to IPL for the Yellowknife sessions.)

Allison (Renewable Resources, GNWT) asked a series of questions on the assumptions used by the proponents in preparing the EIS. The definitions used in the EIS suggest a degree of precession of forecasted performance that can't be obtained. The proposed monitoring system would not be able to distinguish between a major and minor impact. (The proponents noted this illustrated what they have been saying consistently about the need for all involved to get together for effective monitoring. DIAND's Beaufort monitoring scheme is a good start.)

Deltor (Town of Inuvik) wondered what plans the proponents have to monitor urban effects on the environment if Inuvik grows to 26,000 people. (The proponents have no plans for monitoring within the town.) There have been enough hearings. A process for a continuing consultation needs to be established now.

MacPherson (BSA) asked why the proponents believed they have good mitigation measures for the North Slope when the 1977 NEB study said that development on the North Slope should not be permitted. (The proponents observed that the Beaufort project is vastly different from the project studied by the NEB and knowledge has increased.)

Lawrence (DFO-Submission IN-54) recommended a series of baseline studies involving both industry and government which should be done before development starts. Among these were:

1. Critical fish habitat in relation to borrow material, blasting, shorebase siting, winter roads and haul roads;

2. Source identification for water needs;

3. Regulation formulation e.g. the use of explosives in fresh water;

4. Control of pressures on specific fish populations;

5. Oil leak/spill detection from pipeline;

6. Waste handling techniques;

7. Monitoring and mitigation of the impacts of roads, causeways etc., on water quality and fish.

Beanlands (panel technical expert) admitted to some confusion as to environmental impact assessment methodology. The success of any exercise involves clear objectives and strategy; the key points are logic and "do-ability". This involves knowing how the results will be used, and responsibilities and roles allocated. Thus, in the context of monitoring impact on caribou for example, one would need data on population, behavioural changes,location/dispersion patterns, etc. To this end, the EIS says that industry would monitor against environmental standards and criteria set by government, but industry and government do not have these standards and criteria for caribou.

Tull (BSA-Submission IN-7) made a general critique of the EIS, calling it of poor quality, that this poor quality challenges the proponents commitment to environmental protection, that it was inadequate for detailed environmental impact assessment, and this called for future hearings for consideration of detailed environmental impact assessment related to a specific project proposals. The proponents accepted as a given that detailed hearings on specific plans will be held and that DFO has called for them. (The proponents disagreed with all Tull said. The panel asked if a detailed hearing would be held because of EIS deficiencies or because of the project nature itself.) The public process should differentiate between a conceptual proposal and real projects. A process for continuing consultations needs to be established now.

Inglis (DIAND-Submission IN-30) talked about conservation, environment and IBP sites. (Tull, as a private citizen, suggested that some interim protection was required while the overall strategy was worked out. The panel wondered how the Land Use Planning process intertwined with the conservation policy.) Those developing the Conservation Policy and Land Use Planning work closely together.

Inuvik, N.W.T.
17 November 1983

Oil Spills and Clean-up

Parsons (panel technical expert) noted that there are various oil dispersants available, one of which is "Corexit" and queried which one might be used to protect a bird population. (The proponents noted that no dispersants are completely effective in the cold water. "Corexit" is available in the Beaufort Sea and is approved by Environment Canada. New dispersants have been tested on the eastcoast but not upon birds. In tests, Corexit 9552 was observed to successfully strip oil from mallards, it also stripped natural oil from the birds and they lost buoyancy.) Heavy metals such as mercury have an effect on organisms. (The proponents noted that metholated mercury caused the problem in Minimatta Bay and this chemical is not in use in the Beaufort Sea. Heavy metals are a concern for the proponents.)

Moore (DOE) explained the approvals process for dispersants as involving laboratory tests to determine effectiveness, toxicity tests to determine the hazards of concentration of the materials. Approval may be given at this stage, however, site specific testing is needed. Guidelines and procedures for the application of dispersants are in place.

Allison (GNWT) asked about the disposal methods for hazardous chemicals in the Beaufort Sea. (The proponents noted there will not be many hazardous wastes and explained that a "hazardous goods manual" has been developed for the Norman Wells Project. This manual lists the chemicals in use, their transportation, handling, storage and disposal of containers. IPL also has a contingency plan.)

Beanlands (panel technical expert) noted that the British Government is about to introduce legislation to control the use of oil based drilling muds and observed that directional drilling techniques require these muds. (The proponents explained it is not a foregone conclusion that oil based muds are required for directional drilling and it is possible to make a "closed system" where there will be no mud discharge to the sea. Cuttings are washed with diesel oil before disposal. Mageau (DIAND) informed the panel that an interdepartmental committee is developing guidelines, using British information, which should be completed by February or March, 1984. The proponents reminded the panel that a report on the discharge of drilling wastes into arctic waters was issued in July, 1982 by DIAND, DFO et al.)

Dredging

Tull (BSA) requested how the dredged material amounts listed in the EIS have been modified. (The proponents estimate that, at the high rate of production, 500 to 700 million cubic metres would be used with no significant environmental problem. Parsons (panel technical expert) suggested the near shore areas will be substantially effected by dredging; these areas include half the area available to Eiderduck, the spawning grounds of cod and concentrations of benthose. The proponents responded that observations of existing borrow sites within the shore fast zone have shown no negative impacts on birds or cod, cod eggs are planktonic which float on or close to the surface. Dredging is from the bottom and the material is moved from there to the site by pipe. Skilled crews continually use the same trench and can accurately position the vessel to within one metre of the trench. Dredging is carried out in a confined location specified and approved by DIAND. Lawrence (DFO) expressed concern with the effects of dredging on the marine habitat since it is difficult to measure the recolonisation and reestablishment of similar populations. Massive dredging could create changes in the circulation and flow of waters, rival the Mackenzie Plume and create problems with the substrate available for benthose.)

Johnson (DFO) indicated that there is very little information available on arctic cod, certain areas such as the north end of Wellington Channel are thought to be spawning grounds but this is not known.

Effects on Marine Mammals and Birds

The proponents responded to a commitment made at the Resolute general sessions noting that the exposure of marine mammals to IBT noise will vary:

- each IBT round trip will take 30 days or 800 hours. Accordingly an IBT will pass any given position twice during the trip or once every 400 hours. If 4 IBT's are used a vessel will pass any given position every 100 hours. The exposure level at a given position will be 1 hour;

- if the speed is reduced while breaking heavy ice to 3 knots the exposure time will triple. Generally, heavy ice areas will be avoided because 3 knots cannot economically be tolerated; and

- information on ships noise predictions are in the "Arctic Pilot Project" July, 1982, NEB transcripts.

The marine mammals in the Parry Channel are safe from hearing damage due to the operations of IBT's. An IBT operating at full speed in ice would generate 160 dBs.; a seal 40 metres from the ship would feel no pain while a white whale 10 metres from the noise source probably would.

Trehune (panel technical expert) noted seals and whales will have difficulty in locating the ship until within 1 kilometre then they would probably move away. Noise stress may cause some over stimulation of the central nervous system and this may cause flight or no reaction. The behaviourial responses of whales have not been determined.

The panel asked if the proponents had enough information to predict if animals will be harmed by the noise of tankers, and if not, how long will it take to get this information. (The proponents stressed that the operation of IBT's will not damage marine mammals. They will not be damaged acoustically although noise could mask marine communication between mammals. Many studies have been done and the available information suggests that the effects will not be great. The proponents will use mitigative measures wherever possible.)

Mansfield (DFO) suggested a good illustration of stress might be seen in the whale population of the St. Lawrence and the Saguenay Rivers where whales appear throughout the summer. The high volume of ship traffic in the St. Lawrence appears to have no influence on the behaviour of blue and fin whales. However, the beluga is markedly different, it is in serious decline in the St. Lawrence, is overhunted and when harassed by small craft shows signs of disarrangement and flees. Whales may become habituated to large slow moving noises but are wary of high speed small craft noises. Toothed whales can emit high frequency sounds of up to 265 dBs. If they are capable of this then they can probably hear ship noises without being deafened. There are questions such as the effects of noise on the social behaviour of mammals that need to be answered and there must be ways to mitigate the effects of development. (The panel asked if enough is known now to proceed with development.) There is enough information available with which to make a sensible decision now. (The proponents noted that the proposed IBT will be quieter than other vessels currently in operation even when driving through ice. Marine mammals do not appear to be terribly disturbed by current activities in the Beaufort Sea.)

The panel discussed Inuit observations that the MV Arctic caused the diversion of narwhals from Arctic Bay to Igloolik. (Mansfield (DFO) responded this is not necessarily associated with the vessel and it may be attributed to ice movements in different years. There is a need to have good catch statistics by which to determine precisely what happened.)

Tull (BSA) asked about the distribution of Bowhead Whales along the Yukon Coast. (The proponents are studying the Bowhead in conjunction with the US Coastguard, and believe the whole population has doubled from the number originally estimated. Whales are distributed from Shingle Point to a few miles west of King Point, none at Stokes Point, and a few at Herschel, usually seen around the third and fourth weeks in August.)

Donaldson (BRIA) noted that there may be a decline of resource harvesting caused by industry impact upon wildlife populations plus the wage economy placing pressure upon the renewable resource economy. Inuit hunt because wildlife provides food and other products, cash returns for skins and ivory and cultural and lifestyle needs. Effort, time, distance and area covered for the harvest of food animals will increase if populations decrease. They will continue to hunt until the cost is too high.

Gunn (GNWT-Submission IN-11) described the potential effects of the Beaufort Sea development on ungulates. Buildings, roads, pipelines, exposure to aircraft and other activities may cause displacement or diversion. Peary caribou may react to a rubble filled ship's track in ice by paralleling it until a suitable crossing is found or by attempting the risk of crossing before it is refrozen. Mitigative measures, such as controlling aircraft activity and road use during claving and migration, education etc. will do much to relieve impacts. All government agencies should pool their resources to conduct disturbance reseach, test mitigative measures and evaluate their effectiveness in relation to ungulates and apply lessons learned from one project to the next stage of development. In order to participate in the proposed monitoring programs additional funding is required.

Inuvik, N.W.T.
18 November 1983

Environmental Effects

Tull (BSA) noted that the Bluenose Caribou Herd had moved west to Fort Norman and wanted to know the effects of Interprovincial Pipe Line's (IPL) Norman Wells pipeline construction activities on the herd and what mitigative measures are in place to protect caribou. (Gunn (GNWT) noted the herd has been sighted east of the ridge at Norman Wells. There have been 1000 animals close to the camp and moving down "cut-lines". This appears to be a response to activities associated with the Norman Wells pipeline project. Donihee (GNWT) explained that the herd has not been in the construction area for the last 30 years and no one can predict if it will be there next year. The herd's reaction to buried or overhead pipelines or construction activities has not been studied.) What impact will ice breaking tankers (IBT) have on Peary caribou migrations. (Gunn noted movement across the Prince of Wales Strait is important to the maintenance of the Peary caribou population. It is believed they will not wait for the IBT tracks in ice to re-freeze; they will persist in their crossings to the extent of killing themselves. Crossings are most likely in May and November. Aircraft would not be used to drive off the animals instead, vessel traffic should be rescheduled. A decline in the herd has been caused by severe weather.) Tull inquired about the impact of tourists on caribou along the proposed Fort McPherson/King Point public road. (Gunn indicated few observations of impacts between tourists and caribou have been made in Mount McKinley Park; it is possible they do disturb caribou. Through road design e.g. "pull-outs" and educating people on how to approach caribou these disturbances could be reduced.)

Emanuel Felix gave a brief history of caribou calving grounds and noted the calving areas are on high ground because there are fewer fox and wolves in these areas. Caribou have recently moved south looking for food because of burned out areas.

Vince Steen pointed out that caribou can walk on very thin ice and will have no problems crossing IBT tracks. Accordingly, IBT's will not have much influence on caribou.

Paul Latour (GNWT-Submission IN-9) presented an intervention on the potential effects of increased industrial activities on wildlife. There is a need for more research into these potential effects, local knowledge must be tapped and projects must be monitored in order to address problems. (The panel asked about the nature of the relationship between polar bears and seals.) During 1975 seals moved out of the Beaufort Sea and the polar bear population dropped. An increasing seal population may not mean more polar bears. (The panel asked if reducing the polar bear quota would be an acceptable mitigative measure.) GNWT's objective is to promote a renewable resource economy. Present quotas allow as many as possible to follow traditional hunting pursuits. The GNWT's objective is to maintain wildlife populations at the highest possible levels. Quotas are cut as a last measure.

Vince Steen commented extensively on the monitoring of polar bears and artificial islands. Monitors should be hired from Tuktoyaktuk or from the area closest to the rig and should be trained and certificated by GNWT. There is a close link between tanker routes, polar bears, seals and seal-pups, marine noise and there is a need to protect marine mammal populations by protecting what they eat. (Morre (DOE) asked what happened to the hides of polar bears killed by monitors. Donihee (GNWT) explained the hides are given to the local HTA to examine, and if the HTA claims the hide then their quota is reduced. If the HTA rejects the hide then the Department retains it. The proponents explained that industry has a detailed contingency plan for polar bears involved in a major oil spill. This specifies search procedures, immobilization, detention, feeding, cleaning and releasing.)

Gordon Stenhouse (GNWT-Submission IN-12) made an intervention on polar bears and human conflicts. There is much concern for human safety but the shooting of bears is not an acceptable management practice. Since bears are attracted by human activities, there is the need that bear monitors are fully trained, camps are designed for life in bear country, workable deterrent systems, e.g. micro-wave alarm systems and rubber bullets, are implemented and appropriate regulations and monitoring of human activities are carried out.

Ron Graf (GNWT-Submission IN-13) noted the importance of wildlife harvesting to the people. The effects of development on wildlife populations in the past are unknown and native hunters have increased over the last 30 years. It is known that certain populations have declined and this caused strict harvesting regulations. Some populations can not be maintained if harvesting increases. Beaufort Sea developments have the potential to severely impact wildlife populations and there must be mitigative measures in place to offset impacts. Data gathered prior to 1980 is not reliable. There are harvest surveys currently in progress with sufficient hunter input to make them useful. Beaufort Sea developments will increase the need for harvesting data. A comprehensive survey of the area is needed to evaluate the wildlife. Such a survey should include consultation and participation of user groups together with extensive research into the ecology and management of animals. (The panel asked if harvesting statistics should provide complete coverage or an intensive study of a small group.) Total participation is needed. Sample techniques may be sufficient in the future. (The panel asked how the reliability of data and overkills are judged.) Fur bearers are the best estimate, use export and home use figures, monitor quotas, receive statistics from Wildlife Officers or from Presidents of HTA's. Problems arise because some hunters believe we gather information for setting of quotas while some inflate their figures because of "land claims".

Lionel Johnson (DFO) expressed concern with the general EIS statements since these pre-suppose our ability to predict what impacts may be. Biological events have many causes and there is a need to develop a general theory which will lead to a better situation appreciation to put things into perspective. If wildlife is pushed to the edge of their range of variability they may not be able to respond to unusual incidents. Any perturbation, e.g. noise, will have a cumulative effect. Animal groups function as cohesive units and noise may disrupt the cohesion of the group. Long term studies are needed to establish animal population

variabilities. (The panel chairman noted there is a need to put together what we know, what we guess and what we assume in order to get results. The proponents noted the Arctic ecosystem is extremely conservative with its energy, it must be handled with care and special precaution.) The Arctic has a high resilience to a single perturbation e.g. the decimation of the musk-ox. They did come back with time. The frequency and magnitude of the pertubation is important. The system needs an adequate chance to adapt.

Effects Of Icebreakers On Ice Regimes

The proponents discussed the "brache" or rubble ice in ship tracks and the availability of ice upon which travellers may cross these tracks. A "buttock flow" shaped vessel would allow "brache" to flow back into the broken channel. (Greisman (panel technical expert) asked about the minimum number of channels required.) Can operate in one channel and would prefer to remain in one channel. (Vince Steen noted that the ice in the Kigoriak's tracks is spread evenly by the propellor wash. In mid-winter refreezing happens quickly but by June ice won't refreeze.) The critical factor affecting the amount of brache in ship tracks is ship speed possible in thin ice and heavy ice. IBT's are restricted to a water depth of 25 meters or more. These depths occur 25-30 miles offshore. Don't expect to see many people out that far.)

Melling (DFO) stated, regarding the question of repeated transits by IBT's through ice sheets, that he has no confidence in the Proponents "Discussion Paper No. 3" nor is he convinced by the conclusions of the EIS. (The proponents feel they have given considerable information in the EIS and in the supplementary documentation to support their contentions. Can not see how tracks would cause "flushing out" of ice in Amundsen Gulf. On the contrary, tracks would build an "arch" or "igloo" to hold ice in place. Ice within Prince of Wales Strait can not move out until Amundsen Gulf breaks up.) The Bathurst polynia could be filled in by ice from Amundsen Gulf. Could also have "flushing out" in Lancaster Sound. These potentialities must be studied. (The panel chairman noted that without vessels going through the channel there is no way scientific conclusions can be drawn. The proponents explained that Volume 3A page 1.1.5 gives complete information on the Bathurst polynia. The effect on Amundsen Gulf remains to be demonstrated. The worst case appears to be the opening up of more water while the potential effect on hunting and trapping is thought to be negligible because there is little crossing of Prince of Wales Strait and most hunting is coastal.)

The panel requested information on R.J. Brown's ice scour design curve which indicates repetitive scours per km per year for 5 years. (Pilkington (Dome) noted the EIS gives the calculations for the pipeline methodology. They are low risk/high return estimates over 1250 years. Scour is multiplied by the ice ridge keel depth. Glasco (EMR) indicated the notch will be plus or minus 0.5 m from the ambient sea-bed. The proponents did not add pressure so must add plus or minus 1 m to the burial depth of the pipeline. There are no production areas near the active shear area and suggest that routine engineering practices will identify ice-bonded perma-frost. Hailey stated that seasonal perma-frost, should it exist, will not influence the design of the pipeline. The thaw strain of non-bonded permafrost will be treated the same as non-frost soils.)

Greisman (panel technical expert) asked about the influence of artificial islands upon landfast ice. How many island will there be in any one area. (The proponents noted islands will cause bridging. In deep water, they will act as 2 individual points but will not act as an extension of land fast ice. "Uvilluk" does not cause an extension. The proponents are aware of concerns that islands have a significant effect on forms of land fast ice but many agree with our observations. Volume 3A plus supplementary documentation in the IES indicates the Proponents position on the "land fast ice" issue.)

Melling (DFO) noted the EIS concludes that landfast ice is undisturbed by artificial islands and has 1.6 ridges per km. What value do the proponents put on this information. (The proponents have investigated the minimum spacing required to get ridging. Land fast ice acts as a large sheet with its stability determined by it's link to the shore and it's grounding all the way out to the shear zone. The proponents have been monitoring conditions for 12 years in order to determine island spacing.)

Gary Surgee (Submission IN33) discussed the Bylot Island Oil Spill (BIOS) project; the fate, effects and clean-up of oil on a beach. On "low-energy" beaches recovery has been low and on "high-energy" beaches recovery has been rapid but the ultimate impacts are not yet known. Monitoring of the BIOS beach continues. (The proponents observed the BIOS project used the dispersant "COREXIT 9527" and asked if results were different from the Torrey Canyon and Amoco Cadiz.) No two oil-spills are alike. Effects range from catastrophic to mild. Did not observe major mortality in BIOS. Possibly cold water negated oil toxicity. The purpose of the exercise is to provide more information on the consequences of using dispersants. It has been demonstrated in one year that the short-term effects are not dramatic thus dispersnats are a viable option.

Lawrence (DFO) noted there is a need to continuously monitor the distribution of the bowhead whale population off the Yukon Coast. (The proponents would like DFO to handle this task or to provide support for industry. The panel chairman agreed there is much need for government support in these activities). There should be more encouragement from government to extend monitoring programs. (The panel expressed confusion as to who takes responsibility for monitoring. The EIS indicates the proponents have responsibility because of industrial development, now there appears to be a partnership. The proponents prime role is to evaluate the effects on the environment, it is government's duty to carry out baseline studies. Industry is doing much which is not their responsibility.) Government's prime responsibility is for monitoring a resource as it relates to harvesting. There is no clear division of responsibilities between government and industry. (The panel chairman indicated the responsibility is Government's to provide baseline information against which impacts may be measured. Loken (DIAND) noted the 1977 Cabinet Decision still applies. The Environmental Studies Revolving Fund (ESRF) which is open to anyone has introduced a new dimension and "pre-decision studies" may be provided through this Fund. These studies may continue right up to the decision to proceed, when surveillance and monitoring will be carried out by a permitting agency which will ensure compliance with terms and conditions. Moore (DOE) suggested "monitoring" is very misleading. There must be a setting of criteria as to who is responsible, there must be a separation of monitoring and surveillance. There are dozens of policies available on these two. "Regulation" is clearly the responsibility of the Government. Loken noted the 1977 Statement specifies DIAND's role for environmental policies and standards. The objective is to maintain the ecological and aesthetic integrity of the North. The policy is "no adverse effects". There is no standard beyond this. Monitoring must not only identify specific populations but also deal with the whole environment. Clearly it is Government's responsibility to ensure environmental protection, to provide enough information and to be competent in order to adequately assess applications.)

David Stone (DIAND-Submission IN-28) reviewed the Beaufort Sea Environmental Monitoring Program which is checked regularly to ensure mitigative measures meet expectations. DIAND controls much powerful environmental legislation in the north. There is a potential for many environmental impacts thus DOE/DIAND launched the Beaufort Sea Environmental Monitoring Program. The Program is adaptive, it will assist with environmental assessment and management, and has developed a collection of ideas and procedures with which to resolve complex problems. (Tull (BSA) asked if the proponents will participate in this onshore/offshore monitoring effort. The proponents indicated there is much offshore activity during the exploration phase and the program will be ongoing during "production". Since no commercial field has been found and no transportation mode has been agreed upon, there are many uncertainties. The panel chairman noted it is possible to monitor inorganic things through laboratory experiments and to guess what would be acceptable. It is difficult to monitor populations. There is a problem being highlighted, what is the most important thing likely to happen to an organism that will have an adverse effect. The panel may wish to recommend on standards and on the use of the ESRF for results rather than for show.)

Inuvik, NWT

19 November 1983

Brooks and MacPherson (BSA) indicated that:

- the Beaufort Sea Alliance, funded in the main by the federal government, is a coalition of environmental organizations formed because of concerns about the environment and social effects of hydrocarbon development and to carry out related research projects;

- the three main areas of research are social economic issues, bio-physical issues and process related questions;

- the adverse environmental and social effects increase with both the speed and scale of development, there is greater risk and potential damage associated with tankers than with pipelines and, accordingly, slower and smaller developments, by pipeline, may conceivably be acceptable;

- further hearings are clearly necessary;

- the impact of land claim decisions on the nature and timing of oil development options and vice versa must be considered by the panel;

- development of the North Slope of the Yukon is not acceptable;

- the proponent's EIS is not an acceptable base on which to reach conclusions about environmental and social risks. It contains inadequate information on species and habitat, fails to provide an adequate understanding of native society, the effects of income and stress on northern communities, omits damaging evidence, is not well supported by backup documents, and mitigative measures are conditional; and

- export markets may exist but this is not at issue. Current supply/demand forecasts for Canada do not require oil or gas from the Beaufort Sea.

Community Socio-Economic Effects

The proponents noted that:

- communities, in most cases, support Beaufort Sea development on the condition that it does not jeopardize traditional lifestyles, benefits flow to northerners and the social and community impacts can be effectively managed;

- community participation is required in the planning and monitoring of development projects;

- if labour camps are not used then Inuvik and Tuk will experience significant growth, Tuk may grow by 500 and Inuvik by 1,500 by the year 2000;

- development could potentially strain existing facilities and services such as town planning, education, social services recreation and alcohol and drug abuse;

- development will enhance the individual's ability to persue traditional lifestyles by providing additional income, developing career options through a greater range of choices and developing leadership skills to participate in community affairs;

- individual aspirations will be supported by rotational work schedules, transportation assistance, seasonal employment opportunities, and special leave programs;

- effective consultation is seen as the essential ingredient in mitigating community and personal impacts and mitigation will be done by providing details of plans on a timely basis, rotational work programs, segregating construction camps from communities if communities so desire, maintaining dry camps, constructing and satisfy industry requirements, alcohol and drug abuse counselling, money management and multi-cultural training; and

- will use a community development planning approach thus ensuring community participation and involvement of all stake holders such as Hamlet or Band Councils and representative community groups.

Greenland (Mackenzie Delta DIZ Group-Submission IN-48) recommended no more harbours on the North Slope because the area is very sensitive and their way of life depends on it. McKinley Bay is the one base to service all the oil companies. A local harbour authority is a good idea as it would help the people most immediately affected. Communities should benefit equally from any developments. (The proponents plan to be actively involved with the DIZ group. It is a good vehicle to deal with regional issues.)

Gibson (BSA-Submission IN-55) stated that environmental assessment and review is valuable, helping to make judgements on activities, to evaluate major uncertainties, and predict positive/negative effects. The panel should not agree with the conclusions of the proponents because of uncertainties, no commercially exploitable oil reserves have been found and the possibilities of catastrophic effects on the environment, the social fabric and the economy. (Hainsworth (panel technical expert) suggested the panel should make recommendations, to consider the problem of preliminary assessment.)

Gruben (Tuk Social Services-Submission IN-59) explained the problem areas include alcohol and drug problems, juvenile delinquency, spouse and child abuse and the need for improved social services liaison within the community. Factors including the high cost of living, poor municipal services, rotational work schedules, 12 hour shifts and separate and unequal facilities for employees lead to these problems.

Residents of Tuk trust government and industry must take responsibility for improving the social well being in Tuk. The solution to the problem is a well staffed multi-purpose social services centre with adequate funding. Recommend a program for juvenile delinquents to include time in bush camps, family training/parental responsibility, remedial training programs and a truency officer. These jobs can be done by Tuk people. Spouse and child abuse occurs at a higher rate than official records show. (The panel asked for a comparison of the "caseload" before and after the arrival of the base camp.) There is more now. At first only one partime worker was needed now there are two full-time workers and they cannot keep up. Lifestyle changes and money have caused all of these problems. (The panel inquired about the effect the 12-on 12-off shift work.) Families seem to be breaking-up. Workers appear to be too tired to deal with family situations. (The proponents feel the need for a shorter working day is a bigger requirement for women; however, a recent survey shows employees do not want to change. Contractors who employ women will change to an 8 hour day, with a 6 days on 2 days off rotation, to attempt to alleviate problems. Horn (Beaudril) noted a survey which indicates women want to work 12 hours per day with a 2 weeks on 2 weeks off rotation. Employees feel if their hours are reduced their paycheques would be cut significantly.)

Inuvik, NWT

21 November 1983

Community Socio-Economic Effects

Peter Usher (BSA-Submission IN-57) responded to questions arising from his intervention. (Letha MacLaughlin (Dene Nation) noted that industry's self esteem has not been destroyed by the Petroleum Incentives Program (PIP) grants and asked what community infrastructures and institutions have been provided through land claims settlements in other areas.) When these mechanisms are not in place difficulties arise, as occurred with the Grassy Narrows and White Dog reserves. The people there depend on domestic, commercial and sports fisheries for their living. Mercury pollution occurred in 1970 and the people were ordered to stop fishing, lodges were closed and people were told not to eat the fish, all of these added up to a severe economic blow. Their livelihood was destroyed and the social fabric upset, which resulted in suicides and other incidents. Yet, after 13 years there has been no compensation or redress for this situation. Hunters, trappers and fishermen do not have proprietary interests whereas industry does through rights coveyed by the Crown to them. Industry can be compensated if their rights are infringed on whereas hunters, trappers and fishermen may not. Therefore, there is a need to have institutions and infrastructures in place and to acknowledge the proprietory rights of the people; the settlement of land claims can address this problem. (The panel noted that most community people said "we don't want to see development, we want to have control over development", and, "what's in it for us". It is hard for industry to understand that people are opposed especially when industry is giving benefits and bending over backwards to help the people. The people seem to say the benefits industry bring are not benefits.) There are contradictions. On one hand people say they don't want development in the first place, while on the other hand, it is noted they take jobs. What they would like is control over developments. They want alternative developments so that people can have a choice. There must be options to industrial employment and something after the "boom".

Ted Chamberlain (BSA-Submission IN-2) noted native land claims, the expression of the rights and aspirations of the native people, are vulnerable to the hydrocarbon developments. The Beaufort Sea proposal poses a greater threat than project specific proposals. Each land claim proposes a concept for development in the north which focusses on the land, livelihood, collective identity and integrity of the people. These claims provide the only comprehensive and convincing alternative to hydrocarbon developments. The Beaufort Sea proposal poses a special hazard which could make it impossible for native people to gain control over events that will shape their future. If the panel recommends specific regulatory structures without reference to the elements of land claims it may be foreclosing central elements of a settlement, while, if no regulatory structures are recommended the panel may be neglecting it's responsibilities with regard to the Proposal. (The panel asked if the BSA presentation had been endorsed by native groups presently negotiating land claims.) CYI, the Dene Nation, ITC and the Mêtis Association have been associate members of BSA and have been provided with all of the papers presented. (MacLaughlin asked what might happen if land claims did not proceed before further development takes place.) In the historical record there is no evidence or analysis

which indicate that things will go well if land claims are not settled. Native people need to have control. (The panel noted the suggestions that "risk takers" should all share and that this includes all Northerners, all should be compensated accordingly and a project may not go ahead unless land claims or safeguards are in place despite the fact this project will operate for generations.) The concepts involved in native land claims must be drawn out and used as the basis for the consideration of the Proposal. (The panel chairman asked where the concept of a "national interest" fits into land claim settlements.) There are times when the Parliament of Canada must decide that the national interest, in a particular area, must take precedence over all other interests e.g. time of war or the current constitutional arrangements. Land claims are caught up in the constitutional questions and these determine arrangements between governments, and, the rights of groups and individuals. (The panel asked if native people in the North have the ability to manage development and to govern themselves at this point in time). They do have the ability. Land claims documents are evidence of the ability of native people. (Richardson (panel technical expert) inquired if the James Bay Agreement is a satisfactory model of successful planning and development). It might be for James Bay. The North has its own set of problems and should have its own solutions. Land claims should not follow one model. (The panel observed that the submission seems to recommend no development until land claims are settled). There is development already. It would be inappropriate to make recommendations on the Beaufort Sea proposals without entertaining the concepts in the land claims. Land claims are not the end, they are the beginning. (The panel asked what would happen if companies were told to pack up and go until land claims are settled). This might generate an interest in the possibilities inherent in land claims for development in the north . The NEB's recommendation against the Mackenzie Valley Pipeline did not stop industry's interest in hydrocarbon development in the North.

Tom Deltor (Town of Inuvik-Submission IN-24) noted the Town of Inuvik is capable of supporting and managing the proposed developments. The "Town" should play a substantial and meaningful role in any decision making process concerning development.

Effects On Northern People

Nider (GNWT) asked if industry has any responsibilities in the areas of social services and social research relating to the impacts industry might have on the psycho-social well-being of communities. (The proponents principle role is as an information source in support of government planning. The obligation to deliver social services is the responsibility of government. Industry actively counsel's it's own employees in areas such as alcohol and drug abuse and will assist employees to access government social programs.)

Hainsworth (panel technical expert) asked about employment policies, as related to northern residents, during cyclical ups and downs. Are local employees affected by cutbacks. (Gutherie (Beaudril) explained the employees at on-shore support bases are usually southerners and they are laid off. Offshore it is not always the case because of the levels of technology). How far ahead can local people plan and can local people with alcohol and like problems be re-hired. (Gutherie

noted everyone knows how long they will be on the job whether they are seasonal or permanent. Those on seasonal work can "bank" their time off in order to have "banked leave" with pay at the end of the season. On-shore employees with alochol related problems which affect their work would be in jeopardy of losing their jobs. Dome reduced it's overall size in 1983. The northern component is operating at the same level. During the winter the operation is further reduced but Northerners are given more opportunities to work. People do know the length of their season. The company also provides a letter of commitment for a job for the next season. Esso's policy is to hire their work force from as close to the work site as is possible.)

Erickson (panel technical expert) noted the EIS Section 5 page 36 indicates no significant increase in the loss of traditional culture as a result of oil exploration among the Inuvik native population. The proponents used renewable resource harvesting as an indicator. What other indicators are available. (Hobart (Gulf) explained that the opinion of anthropologists and sociologists is that the core or ethos of native culture orientation is resource haravesting. It is an extremely sensitive indicator of vitality.) Schools, language of instructions, consumerism and TV are as important to native life as is hunting. (Hobart noted the issue is how closely these other activities impinge on culture. Don't believe natives would let traditional activities pass just to watch TV.)

Walsh (panel technical expert) noted the developments in Tuk seem to have lead to a considerable weakening of the community structure and created social problems. Can a traditional lifelstyle co-exist with wage employment. (The proponents explained that initiatives and strong community leadership supported by government, service groups, town council, the community itself and industry can go a long way towards solving problems. Hobart outlined 3 reasons why Tuk has deteriorated:

(1) Honigmans argue that the culture of the Delta is distinctive, representing a synthesis of elements introduced by white trappers and the indigenous culture;

(2) An industrial camp is located in the community, employing locals, so mothers can and do work. As a result, children may not be fully supervised; and,

(3) It is unlikely that there will be other camps adjacent to other communities.

Ruby (Gulf) noted the communities ability to prevent social problems is based on motivation; availability of resources; and, access to resources. These plus community expertise and leadership can deal with problems and achieve solutions. There has been a lot of learning happening in Tuk. Other communities will benefit from this as can industry and government).

Hainsworth (panel technical expert) referred to Dome's hiring policies and asked if a prior police record or possession of alcohol in camp would be sufficient reason for not hiring or for firing. (Broome (Dome) explalined it would depend on the severity of the case e.g. would have problems hiring a "bootlegger" or a narcotics trafficker. Persons found with alcohol in camp will be terminated. Bertha Allen (Native Women's Society) noted many natives have been laid off because they have minor

police records. Dome is trying to find every excuse not to hire native people or keep as few staff as possible. Why can't these people be reinstated. Broome explained that each case is considered individually and this policy will continue. Each application is reviewed even when it comes from someone who has been terminated. There have been two instances where people have had seven chances. Dome stands by its record). What is the definition of a Northerner. (The proponents explained Dome requires 2 years residence in the NWT or Yukon, Gulf requires 1 year, Esso requires the establishment of a residence without a time limit).

Resource Harvesting

Moshenko (DFO) noted that the wage economy will not necessarily support individuals in obtaining their gear for hunting, fishing etc., making their hunting more efficient and, in turn, leading to the eventual destruction of the resources. More efficient hunts depend as well on other factors such as camp location, time, weather and the position of wildlife. To what extent do the proponents allow special leaves of absence to hunt. (The proponents are flexible and special leave is covered in current policies. As for hunting on leave, much depends on the objectives of the hunter. When on-site the staff are controlled, there is a "no firearms" policy and the licencing measures of the NWT pose certain restrictions for rotational work forces to hunt and get licences). What potential demand will be made by "outside" employees on the recreational and sports fishing resources. (The proponents explained you don't have to be a resident of the NWT to obtain a fishing licence. Employees are not encouraged to fish when on-site and their access off-site is controlled. In addition, the wildlife laws, ordinances and regulations of the NWT are governing factors). To what extent do the proponents plan to locally block-purchase freshwater commercial species. (The proponents do not purchase directly from a community. They purchase through Ulu Foods or through IDC, who source the product from a broad number of areas so that no one area will be overharvested. The proponents know that growth and reproductive rates of various fish species are not strong enough to allow any significant commercial exploitation. DFO is responsible for ensuring, whatever levels of resource are harvested for commercial purposes, the continued health and well-being of the resource. The appropriate regulatory authorities must take long-term community development plans into account.)

Employee Counselling

Hainsworth (panel technical expert) asked if there was a connection between people who are discharged and suicide. (Wiswell (Gulf) indicated the proponents don't understand the relationship between the two but in the instances that have occurred they were not directly wage related. Most suicides are teenagers who have no work experience).

Allen asked if the proponents considered using private cousellors rather than their own. (The proponents are very interested and will discuss this when the financial situation improves).

Resource Development Experiences From Other Areas

Gordon Nelson and Richard Butler (panel technical experts) made a presentation on the Scottish experience with offshore oil and gas developments in the Shetland Islands and explained it's general applicability to the

planning and management of development in the Beaufort Sea. The Shetland experience highlights the following main points:

- monitoring must begin early and be maintained throughout production and the run-down period;
- information needs to be accurate and complete;
- policy formulation must be specific and consistent;
- local government must acquire necessary powers over land, developments, and control of operational procedures;
- planning should be done from the very beginning for the long-term and should include the run down period (this could include development of a compensation fund for the run-down period);
- planning must be done by the communities; and
- where the local governments and people have the right information and right powers they are quite able to deal with government and industry.

An Arctic environmental forum is recommended as an interim measure to support a Beaufort Delta shore planning commission. (The panel chairman asked what role individual leadership plays in managing the process and leading it to a successful conclusion). It is a very important role. (Hainsworth (panel technical expert) asked if land rights issues, local political organization and a sense of community are critical in coming to advantageous terms). The settlement of land claims, even on an interim basis, would provide land and resources so that the local people can have leverage in their negotiations with government and industry. (Hainsworth questioned if there should be a compensation fund or an insurance fund for all likely affected parties to either contribute to or draw on). The Shetland's compensation fund worked well.

The proponents (Pat Weinstein-Submission IN-73) presented a history and overview of the developments in Alaska and noted major similarities and differences between Alaska and Canada. Between 1973 and 1976 the population of Alaska increased by 80,000, about 40,000 were pipeline related. 3,000 jobs were guaranteed for native people and some were employed on the pipeline project. Incomes went up. Crime increased but then dropped as the project wound down. State revenues increased from $177,000,000 to $588,000,000. The Alaska Native Claims Settlement Act granted native people title to 40,000,000 acres, with 3,700,000 acres on the North Slope, and of those 800,000 acres included sub-surface rights. Subsistence activities have been inhibited by State and Federal regulations. Subsistence activities remain a vital component of community life. Alaskans have shied away from the importance of planning. $900 million Alaska native land claims settlement money was expended throughout the State to create institutions which had the power and capability to absord impacts e.g. the North Slope Borough. The North Slope Borough was not without problems. Among these has been the extensive litigation required to secure the right to tax production facilities and environmental protection, which is controlled to some extent by land use planning policies.

David Brooks (BSA) suggested work carried out by "Energy Probe" may assist the Panel in evaluating claims relative to the timing and scale of hydrocarbon developments in the Beaufort Sea and the need for Beaufort Sea oil. Based on "Energy Probe's" research there are no likely grounds under which Beaufort Sea oil would be needed. Additionally, world oil prices are declining, the insurance value of Beaufort Sea oil does not make sense in the context of the world situation, production costs would be enormous, and given the availability of southern supply there is no apparent market for Beaufort oil.

Inuvik, NWT

22 November 1983

Government Management

Moore (DM, Local Government, GNWT-Submission IN-37) explained: GNWT supports industry's intention to transport workers from outside NWT to and from the homes; GNWT does not support new communities but would support growth in existing communities provided the community council supports this and finances and infrastructure for growth are gradual and controlled over a long term to avoid a boom-bust cycle; GNWT support camps away from communities for isolation and containment but is not prepared to provide municipal services to these camps; growth should be managed through a community-based regional planning mechanism which sets the timing, scale and pace of industry's development; strong effective community local government, strong enough to negotiate with industry and control development, is needed; municipal ordinances need to be reformed to increase the ability of communities to deal with town planning, lands administration, taxation and municipal finances; and GNWT is unable to provide the $5 million special impact funding Tuk needs for roads, lots and shoreline restoration. (Walsh (panel technical expert) asked about the progress and use of community planning). Inuvik is quite capable of rewriting their own plan themselves but others are not. (McGee (GNWT) noted planning for Norman Wells, Tuk, Fort Norman, Fort Franklin, Sachs Harbour, Paulatuk, Fort McPherson and Arctic Red River has been concentrated on. Communities must have ownership of planning plus resources and manpower. There are no resources available; possibly NOGAP can provide the necessary funds. The panel asked how community-based regional planning is related to the DIAND Land Use Planning (LUP) program and if there is an adequate role for communities in this program.) There probably is not an adequate role since DIAND's LUP program is a facilitator for resource development, it is not designed to mitigate against impact but to allocate 99% of Canada Lands to development. The Government of Canada consults on how to use land for development but it is not the same as what GNWT wants by resource development. The "Regional and Tribal Councils Ordinance" opens the door for people to work together e.g. "Comprehensive Planning". DIAND's LUP program does not take the community into consideration, and needs the involvement of GNWT and native organizations. (The panel asked if it is GNWT's goal to develop private housing markets). The housing corporation provides public housing. Local government provides the land. The land must be handled with care to prevent speculation.

Dunbar (ADM, Social Services, GNWT-Submission IN-26) noted change is part of life. Management of stress must occur at the local level since impacts are felt at the individual, family, and community level. (Hainsworth (panel technical expert) asked about trade-offs when weighing the net benefits against alcohol and other problems). Social Services cannot quantify this. What is needed are more seminars etc. to identify problems, address them and to extend more control to the community level. (The panel inquired about the status of the alcohol committee in Tuk). The committee was not funded in 1982-1983 because of limited funds and the social worker did much of the work. A new proposal is in and the program should operate next year.

Community Socio-Economic Effects

Freddie Greenland, Ted Jackson and Bob Simpson (Mackenzie Delta Dene Regional Council-Submission IN-76) raised the following points:

- Changes are happening too fast and causing constant turmoil. Industry is responsible for many of these changes and effects. These result in problems including disease, VD, suicides, violent crime, spouse/child abuse, alcohol, drug and glue abuse, and unemployment;

- Lifestyle changes have caused many problems. When the people were on the land they had no time for problems and were in touch with their family at all times;

- Educated people have exchanged their family life for material things so they are now just competing for money;

- Suicide hurts all, causing despair to spread. Rotation program workers arrive home with cases of liquor and get everyone drinking. This leads to many suicide attempts. A community suicide committee has been established and people participated in a workshop on suicide in Inuvik and a self-help group is planned for Fort McPherson;

- There are too many conflicts and meetings. We need to concentrate on our own ideas. We need time and resources to solve our problems, we want to direct social change, not be directed by it. We are the experts in our own communities;

- Through aboriginal rights we have proprietary rights and interests in the land and want protection by law and compensation in land claims. Compensation can take many forms including loss of lifestyle, well-being, stress, access etc. Compensation may not be necessary if there are measures to ensure no damage. We want to monitor the use of land by others and want protection of our use of the land. (The panel inquired how youth are being encouraged to continue the tradition of a renewable resource economy). Skills are being taught in schools, however, more time in the bush is needed. HTA needs funding for this;

- The Dene advocate community-based development. Community based economic ventures will permit the Dene to control their lives;

- Cumulative effects of development are not clearly understood. There is a need for more reserach;

- Recommend a small diameter buried pipeline. There should be no development until land claims are settled (within 2 years). Dene self-government must be part of the land claims settlement. A regional development agency should be estalbished to develop a diverse economic base. A Dene training centre should be created. Dene social and cultural programs should be strengthened. The Dene should be contracted for research into critical issues. A human rights fund should be established. (The panel asked if there should be no development, should industry be told to pack up and leave). Land claims should be settled in 2 years. The settlement will act as a mitigating measure which will help set up institutions for Dene to become involved in developments. Recommend a two year delay so that the Dene can get ready for involvement and increase their participation.

- The land claims process will ensure the survival of the Dene culture;

- The Dene want to be partners in directing and managing development. (Hainsworth (panel technical expert) asked if the Dene Delta are considering a proprietory interest in the development of oil through a joint venture.) The Dene must have a hard look at participation. They are involved in a traditional economy and want to balance this with resource development. Data collected from the Dene indicate they want to participate in oil and gas development. There is no reason to believe a small scale development is going to mean the lack of a strong economic base north of 60°. Communities will take a diversified approach, decide which institutions will take the lead and how to interact. The Dene are working on these institutions now. Dene communities have become involved in economic developments, including stores, gas stations, highway contracts and are joint venturing in an airline; and

- Dene land use plans are as importnat as industries'. Land use planning should ensure industry plans fit into Dene plans. (The proponents noted the oil and gas industry is one sector which may provide the economic surplus which would allow community developments to take place. The panel asked about opportunities for sole support mothers in industry and in the traditional economy). Women are disproportionately represented in welfare statistics since they are interested in all factors of employment - management training, skill training and development, handicrafts.

Bertha Allen (Native Women's Group) suggested women need to be involved in the economy or be self-employed. Programs to achieve this must be developed by native women for native women. They need good support facilities e.g. day care centres. Single mothers want off welfare and into work. The economic development fund should support this. Women still follow traditional arts and crafts to supplement their income.

Ted Mason (Fort McMurray) commented on the effects of resource development on the quality of community life:

- Both Suncor and Syncrude were built without Environmental Impact Statements or Socio-Economic Impact Assessments and both turned out well;

- The tremendous benefits far out-weigh the negative impact;

- Planning is critical in alleviating pressure on facilities and government;

- The reality of large scale development is traumatic but the collapse of Alsands was disasterous for Fort McMurray. This was more difficult to cope with than actual development. There is little to fear from large scale development, every aspect is manageable;

- If environmental and socio-economic studies were conducted some difficulties could have been avoided e.g. municipal funding and infrastructure;

- Development should occur only in the framework of clear government policy;

- Direct proponent/community interface during approvals processes is desirable;

- Governments must be prepared to offer the same finances, planning and commitments as industry for those elements which clearly fall within their mandate. They have to recognize their responsibilities; and

- A coordination office should be adopted.

(The proponents asked how the local government in Fort McMurray prepared to deal with development). Municipalities can never be as well prepared as they should be. Municipalities must have dialogue and consultation. Municipal governments cannot justify the development of infrastructure for something which may or may not happen. The province had planning authority and much presence in Fort McMurray. The community council had limited powers. Fort McMurray could not have survived without the province. (The panel asked how natives handled oil sands development). Most natives live in Fort Mackay and Janvier, not in Fort McMurray. Industry has good programs for them. There is not much evidence of difficulties.

Northern Economic Opportunities

The proponents explained there is a strong corporate commitment to maximize opportunities for northerners. It's good business practice to shop locally. (The panel noted there appears to be a low number of trainees completing training opportunities, 17 out of 236 employees. Are there people taking training and finding no work). The proponents explained that they work closely with government and take advantage of programs. The oil and gas industry is only one of many employers. There are only so many people a project can absorb. Community-based training, which avoids destruction of families, is encouraged.

Inuvik, NWT

23 November 1983

Government Management

Horn (ADM, Economic Development, GNWT-Submission IN-27) noted that the lessons learned from the Norman Wells Project have been valuable. There have been bottlenecks in training in the Beaufort Sea area with natives; however, northern hiring policies are now in place and in practice. GNWT will work with the unions to ensure northerners are dealt with fairly. GNWT wants to ensure northern business opportunities and cited as an example the GNWT opposition to the licencing of corporate air transportation where there may be competition with established northern airlines. (The panel asked if management courses are a GNWT responsibility.) Through the EDA human resources development agreement there is 4 million dollars available for life skill training. GNWT now has courses in place.

Lewis (DM, Education, GNWT) speculated that work opportunities in the Beaufort Sea which don't require education provided by Tuk Tech may explain reducing enrollments. The Tuk Tech program remains effective, enrollment does not affect delivery of the program. The "Joint Training Needs Assessment Committee" report is a useful document which has been presented to the Minister of DIAND but has not yet been responded to. (Sterling (DIAND) offered to submit the report to the panel for information. The panel chairman requested an overview of training in the NWT.) The National Training Act provides for a NWT agreement on education and training with a joint consultation mechanism of three committees: 1. Executive Committee presents major recommendations; 2. Working Committee gathers information; and 3. Community Committee with representation from CEIC, Education, Economic Development and local or regional groups. (The panel questioned the need for skill development and a training facility, technical school or college, in this area). In the past, people were uncertain of the value of education so took the minimum. There is a need today. Adult education exists but people cannot afford to go to school. The Economic Development Agreement (EDA) had a training subsidy built in but it subsidizes a higher level of training which precludes those with a lower level. Innovative training through "extensive" programs at the community level are coming. The need for subsistence assistance continues.

MacEachern (Director, Inuvik Region, GNWT-Submission IN-60) explained GNWT program and policy delivery for the Inuvik region. A regional resource development committee has been created which coordinates inter-departmental responses to specific community problems, exchanges information and liaises with industry. It is acknowledged there is a need for a better data base in the region. There is a need for special pre-development funding to assist communities in preparing for development. There is a major requirement to coordinate government, industry and community activities related to Beaufort Sea development. A DIZ group has been established and is working on this. (Hainsworth (panel technical expert) noted that, in a survey of Tuk, there is a gap between aspiration and attainment which causes stress. Are alternative lifestyles being fostered). Business proposals are analyzed very closely and all factors are evaluated to ensure viability, that there is a place for the cultural heritage and to maximize benefits for those who elect to stay on the land. (The panel noted that Tuk wants to move the airstrip, build a bridge and develop the southern

part of the Hamlet). GNWT's immediate thrust is to support the community in resolving these problems and there has been extensive communication on these issues. There is a need for special impact funding for roads, industrial parks and relocation of the airport. The costs and technical feasibility of these are being studied. The onus is on the federal agencies to resolve these problems.

Knox (Beau-Tuk Marine Services) noted the social services committee of Tuk wishes to operate an alcohol centre in Tuk and has forwarded a proposal to GNWT for funding and staff; the proposed cost for this desperately required center is $85,000. There is a need for more joint ventures similar to Shetah drilling and there is a chronic shortage of housing. Control of development should be decentralized to the Hamlet so they can share in technical change, participate in the benefits of the project and be involved in activities. (The panel inquired if the DIZ group is going to be any better in getting federal or GNWT funds). Don't know where DIZ funds come from. Tuk wants to take on the responsibilities. The problem with the GNWT is their lack of continuity. Tuk is capable of dealing with problems but there is a need for a three way communication system to do this.

The panel asked about the long-term social and economic prospects for the NWT and if other sectors of the economy could sustain the population in the event the oil and gas economy shutdown. (The proponents noted the communities have to identify needs and gaps and then it's up to the government to pick up the ball, A shutdown could happen over generations which will present many opportunities to plan the way out. Gearing up for the project is more difficult).

Community Socio-Economic Effects

Robertson (Mayor, Town of Inuvik-Submission IN-19) noted the problems of uncertainty are worse than the problems of development (The panel asked about an enclave in Inuvik.) Inuvik will want control of such an enclave and will encourage people to live here and pay taxes. (The panel asked about Regional Government.) Inuvik has no position yet. (The panel inquired about the status of the Town Plan.) The Town PLan was rejected because it was not practical. Inuvik is preparing its own which is flexible.

Hill and Pluim (Inuvik Chamber of Commerce-Submission IN-52) observed there is much business going on now. The Chamber supports the concept of an "Arctic College" and is concerned that regulatory processes will interfere with existing business activities.

Jack Ellis (York University-Submission IN-65) explained that impacts come from changes in population and the "Life Ways". There is no point in trying to refute and improve the EIS until there is a specific project to deal with. The EIS is overly optimistic and may encourage over-extension of businesses. Impacts on resource harvesting should be looked into actively and the potential for local businesses should be explored. (The proponents explained they have prepared a paper which is a review of legislation and their policies. Prevention is the key. Need adaptable approach. Compensation for damage and clean-up of oil spills covered by legislation. Support the approach taken by NWT and are discussing

with GNWT. Current legislation needs clarification. Do not support complex funds with absentee adminstration. GNWT outlined concerns with the existing legislation:

The operator is libel but the owner is not;

What is a ship i.e. what is a semi-submersable;

Minister of DIAND requires a financial responsibility - does this change from exploration to production;

What is the amount of fnancial responsibility required;

Is insurance coverage a responsibility under the legislation;

What do loss of future income and gathering activities mean beyond direct damages; and

Is loss of access included.

Donihee (GNWT) presented material on GNWT's compensation policy.)

Inuvik, NWT

24 November 1983

Government Management

Neil Faulkner (ADM/NAP, DIAND) noted that the Department's October 1982 statement, tabled with the panel, contains a wealth of information on government coordination mechanisms in the North. DIAND coordinates the efforts of the major players in the North. Authorities are divided between the Territorial and the Federal Governments which allows a form of responsible government to flourish by providing responsibilities in key areas to make decisions and to priorize, e.g. the territorial initiative in the formation and funding of a DIZ group will be significant in the growth of self-government in the North. Government management should not be examined in isolation from its policies. Those policies announced in 1972 are still valid, they govern what is done today. DIAND's key responsibility areas include coordination and resource management in the north, both of which are administered through the regional offices in both territories and through COGLA which has a responsibility for oil and gas in the North. The Federal Cabinet has stated that responsibility and control of resources will continue to rest with the Federal Government. COGLA regulates and administers oil and gas exploration and is the principle point of contact for operators on Canada Lands.

Hiram Beaubier (Regional Director General, N.W.T. Region, DIAND-Submssion IN-62) briefly restated the departmental policy on hydrocarbon development and emphasized that the Department favoured phased development because this would permit those involved to set the pace of development. Government coordination for Beaufort Sea development will be achieved through a project coordination office, the details of its implementation are still under consideration. Management mechanisms and systems which are in place stem from the Senior Policy Committee, chaired by the ADM/NAP, with membership of both territorial governments and federal departments. This committee deals with political and operational issues, and is charged with policy decision-making related to the North, including the Beaufort Sea. The committee in turn relates to the Arctic Waters Advisory Committee, Water Boards, Land Use Advisory Committees etc. all of which allow local comment and direct access to Government agencies. The Department has created the following framework to develop an early understanding of socio-economic and environmental issues and assist with their resolution in relation to Beaufort Sea development:

the Environmental Studies Revolving Fund (ESRF) is funded through industry and provides for research into socio-economic and environmental impacts;

the Northern Oil and Gas Activity Program (NOGAP) will provide extra-ordinary funding for development related research;

monitoring of key issues, including the Beaufort Sea environmental monitoring program and monitoring carried out on projects such as Nanisivik and Norman Wells;

land use planning provides a way to deal with specific issues and is seen as an exciting opportunity to provide responses to local concerns since local people will be involved in the land use planning process through local Advisory Committees which will advise a Land Use Commission;

a review of environmental management policy in the North will be concluded during 1984;

provision of a formula financing system to respond to issues has been initiated;

Canada benefits and Northern benefits packages of exploration agreements are worked out in concert with the Northern Benefits Committee, GNWT, and Industry in response to local concerns and input;

DIZ groups, if free of political association with GNWT, could facilitate direct consultation; and

EDA which is jointly funding - 90% federal, 10% territorial.

Gay Kennedy (GNWT) noted that DIZ is a GNWT initiative. GNWT has funded the Beaufort Sea DIZ group. The Canada benefits plan is submitted to COGLA and reviewed by a Canada Benefits Committee to reflect Canada and regional benefits. The regional interests may not be compatible with national interests.

Gilmore (GNWT) noted the NEP, which strives for guarantees of security of supply, may conflict with local lifestyles and questioned if COGLA or DIAND weighs which is the more important interest. (COGLA is a part of DIAND, and since the DIAND Minister is accountable for COGLA a balance of interests is assured through the Minister. COGLA receives input through GNWT's participation in Northern Benefits Committees. DIAND will seek advice as necessary though not necessarily through DIZ. The Minister may organize a local advisory committee to provide him with advice and guidance.) There have been forty exploration agreements signed by COGLA with no public review. (Taschereau (COGLA) noted the Canada Oil and Gas Act gave COGLA one year to renegotiate eight thousand agreements on Canada Lands. COGLA negotiated in good faith and within the year had signed off two hundred agreements. Faulkner (NAP) indicated public reviews of exploration agreements are not routine but if approached by an organization, such as COPE, community meetings may be held.)

The panel requested information on community impacts from a shortage of money and revenue sharing. (Faulkner indicated this is being examined by Cabinet. A deficit guarantee proposal would allow the appropriate delivery of funds for longer term developments, which may include areas such as local and territorial taxation. A proposal to consider a "Heritage Fund" in the Yukon is being reviewed. This may set aside tax revenues from a pipeline or other new revenues may be found. Revenues have been made available to deal with every stage of development e.g. the Norman Wells funding package. Most governments are examining ways and means to meet these issues. Taschereau observed that operators still have to find a commercial deposit. An understanding similar to the "Nova Scotia Agreement" would make sense in the North.) Since revenues are tied to production, the panel needs to know the formula now, impacts are here now.

The panel noted that the federal government passes control to the territorial government who pass responsibilities to the local level, with many advisory committees, while government controls the funds and lands. There is a negative stress on locals who, on advisory committees, cannot control situations and have no finances. The advisory committees identify problems but by the time funding arrives other impacts have occurred. Has the Senior Policy Committee addressed this in order to find a simple solution. (Faulkner stressed that the local view is critically important, hence consultative committees. It is disruptive if the federal government becomes involved at the local level, the appropriate interface is with the territorial government. The federal Cabinet has retained control in resource matters, responsibilities have not devolved to local governments or to the GNWT. The land use planning process is critical to ensure the meaningful input of local governments in planning.)

The panel asked about the mechanisms COGLA uses to assess the highly innovative engineering designs in the Beaufort Sea. (Taschereau explained the total resources of government are drawn upon. New technologies need careful examination and COGLA will go wherever necessary to get the best expertise to help e.g. National Research Council, Canadian Coast Guard, Norske Veritas, Lloyds, American Bureau of Shipping.)

The panel conveyed allegations, made in communities, that in land claim related matters the government is constantly eroding the negotiations by issuing permits, mineral rights etc. with no recourse of the Native people. (Faulkner noted that land claims, political development and the economy are all interwoven. Land claims must be first.) Will a right-of-way negotiated through a potential land claims area be subjected to a caveat. (Faulkner explained that negotiations will be conducted in a manner which is sensitive and fair to all and will not jeopardize land claims. Acreage from other areas could be substituted for right-of-way lands.)

The panel noted that the Berger report recommended a ten year moratorium. There remain large gaps in baseline data and monitoring programs as nothing has been done in the last six years. (Faulkner

explained that gaps always exist in our knowledge base. Surveillance is needed to ensure conditions are met and monitoring is needed to see what is happening. The key to implementing these is land use planning. This depends on the quality of cooperation and participation.) The panel stressed that baseline data is needed now in order to put standards in place now. One party must be in charge of monitoring. How will all organizations feed into DIAND monitoring and how will they receive information and do something about it. (Faulkner explained there is a clear regulatory process which takes the recommendations and views of the agencies to a conclusion. If there are unknowns they must go to the Minister for approvals. Guidelines must be clear, standards must be met and mitigative measures must be developed.) The panel asked how decisions can be made when there is no data base. (Faulkner noted that all Departments have responsibilities and DIAND will approach them to focus on areas of concern. This will be managed through a Sub-Committee of the Senior Policy Committee which will advise appropriate Ministers so they may make timely decisions. Taschereau observed that Drilling Program Approvals are run through the Northern Affairs Environmental Program and other involved agencies to ensure all interests are covered-off.) The panel chairman asked what reassurances there are that government will put a process in place to ensure a smooth operation, financed and functioning when it is needed. (Faulkner explained that government functions are being strictly carried out as are policies. These are audited to see if they are efficient and, if not, will be improved. Norman Wells is serving as a model. It appears to be working. A Beaufort Sea office and the regulatory process are being considered and put in place at the right time to ensure Beaufort Sea development proceeds in the best possible way. Taschereau observed that once a commercial well is found a development plan is two years away.)

Nancy MacPherson (BSA) questioned the government's position on the Yukon North Slope. (Faulkner cited the DIAND Minister's statement in July which recognizes that land claim negotiations impinge on this area.) The government seems to have initiated an offer of eighty million dollars to CYI so that they could enter into a joint venture with Kiewit. DIAND seems to be attempting to resolve conflict by offering incentives. How can COGLA justify encouraging industry to actively apply for an area of interest to conservationists which was articulated prior to this initiative. (Taschereau explained COGLA receives its Energy Policy from EMR and Northern Policy from DIAND. There is a clear political will for energy self-sufficiency, to get the resource into production.) Why was the North Slope not referred to EARP. (Faulkner explained that the Gulf application was judged to relate to the exploration phase. The panel has been supplied all related information.)

Detlor (Inuvik) asked when Inuvik will receive NOGAP funding (Faulkner noted the availability of NOGAP funds is subject to a Cabinet decision. Approved funds will be channeled through the GNWT.)

Ellis (York University) asked about the 15 million dollar Environmental Studies Revolving Fund. (Taschereau explained that the ESRF is a capital 15 million dollar revolving fund paid for by industry, based on acreage held. Two boards manage the fund, south of 60° the board is chaired by COGLA and north of 60° the board is chaired by DIAND. Participants on the north of 60° board include DOE and DFO. Committees of the boards have specific responsibilities e.g. ice scour, sedimentary movements, social issues. One hundred proposals have been received to date. The panel asked if the ESRF application forms are easy to understand. Beaubier indicated he has not seen the form but assumes it can be handled by communities, since an application has been received from Fort Good Hope). What is the status of the land use planning (LUP) process. (Faulkner noted tri-party agreements, between the governments and native organziations in each territory, have been signed. Staffing of positions is in process. Land use planning will likely start in the new year.)

Donihee (GNWT) commented extensively on environmental monitoring and management for Beaufort Sea development and questioned the role of land use planning committees. (Faulkner noted that the role of these committees has been left open to the mandate of the LUP commission. The commission will choose how to engage with the people and organization. The panel asked how they are to make recommendations on the project if the LUP process is not in place. The panel is to tell the government about potential problems and how to coordinate these with recommendations. Specific information is needed in order to provide recommendations on how to fill in the gaps, where the obstacles are and if the process is too cumbersome. Faulkner indicated DIAND has worked hard to give the facts as they are known. The Panel was not created to allow bureaucrats to examine the government rather it is to examine, comment and make recommendations on the EIS. There is a need for local input and the panels recommendations will be valuable in the process).

The panel noted that it is very difficult for the government to police a large project from the outside. Accordingly, self-governing regulation is needed, to tell if industry is doing a good job, and there must be an incentive to do a good job e.g. Petroleum Incentive Program (PIP) Grants. What sort of approvals will provide the incentive for industry to police themselves. (Faulkner explained that very advanced technology is used in the north which is subjected to precise standards, planning, monitoring and surveillance. These trigger "self-policing". Taschereau related comments that PIP grants have nothing to do with environment and safety. From a regulatory point of view exploratory drilling is occurring and the regulations are being followed).

The panel asked about opportunities to learn offered by the Norman Wells project. (Hucker (DIAND) explained that Norman Wells monitoring has been undertaken and continues. The Norman Wells monitoring and research group includes GNWT and several agencies.

It is a successful serious approach to environmental monitoring. Professor Bone, University of Saskatchewan, has been retained to conduct social economic baseline studies and will review community data each year for the next five years. Donihee observed that both "pre" and post construction monitoring are required and this has not occured with the Norman Wells Project. IPL has no monitoring responsibilities until construction is finished. Some funding has been given to locals but this will probably dry up when "leave-to-open" is granted. There are gaps in the monitoring of the Norman Wells project because government agencies have now moved onto the Beaufort Sea. Beaubier acknowledged there are gaps and noted that while it is not the first pipeline in the NWT, it is a learning experience).

Rothschild, Blasco and MacInnis (EMR) noted that appropriate policies are in place so the Beaufort Sea need not be considered in a policy vacuum. (MacPherson (BSA) noted EMR's supply-demand projections show Canada does not need Beaufort Sea oil until the year 2000). EMR forecasts indicate increased demand to 240-245,000 cubic metres by 1990. The low estimate anticipates 16,000 cubic metres from eastern Canada Lands by 1990 40,000 cubic metres from other eastern or Beaufort supplies. (The panel asked if offshore research and development is conditioned by PIP?) Offshore well drilling may be PIP'able but ship time in research and development is not PIP'able. (The panel chairman requested progress in seismic research into the integrity of structures in the Beaufort Sea.) There are six Beaufort Sea stations monitoring seismicity which will aid in determining knowledge for construction.

The proponents noted that the key actors in managing impacts are the communities and governments, the coordination office managing the Norman Wells Project is very productive but it should have been established earlier. The government should establish a Beaufort Sea coordination office now, during the exploration period. It is desirable to have land claims settled soon although this is not the only issue to be resolved. (The panel asked if industry will buy housing in communities for their long-term workers). Employees are encouraged to buy their homes but industry will buy homes if necessary. Esso owns housing in Norman Wells and one unit in Inuvik.

The panel asked the proponents if they anticipate abuses of the ESRF. (The proponents stressed this should not take place but since it is the only "pot" there may be abuse. Industry does not like spending money in a wasteful manner or on unnecessary research).

The panel inquired about the term of life of the Northern Oil and Gas Activity Program (NOGAP) and how important this funding is to the continuity of DOE's research. (Moore (DOE) noted the term of NOGAP is 7 years. Committed funding through NOGAP is useful and makes a big difference). What about inter-government cooperation when crossing international boundaries. (This has not evolved to the extent DOE would wish, however, no problems are anticipated in this regard).

The panel asked about inter-government cooperation when crossing international boundaries. (Moore noted this has not evolved to the extent DOE would wish, however, no problems are anticipated in this regard).

The panel asked if a single agency could oversee implementing an intergrated regulatory framework before development takes places. (Taschereau considers that COGLA can handle the job, delegating where necessary. If there is good will and good faith there will be no problems. Faulkner indicated that a single overriding agency is a complex issue, and one may not be necessary. There are centres of expertise within government departments which will identify and close gaps. This seems to be working in the Norman Wells project which is well coordinated.)

Marr (Canadian Coast Guard) explained that a ship control authority for Beaufort Sea tankers will be similiar to that proposed for the Arctic Pilot Project, standard traffic systems are not the all encompassing authority that some believe and drill ships use those rules and regulations of vessels used in navigation. There have been changes to the Shipping Act regulations pertaining to unusual or special ships. Any interest group may approach the ECAMP committee and if necessary CCG will incorporate their advice.

Davidson (Aviation Services, Transport Canada) reviewed the Aviation relign Service's mandate in the North and noted that forecasts for the Beaufort Sea area are in place and communities may comment on these strategies if they wish.

Gilmour (GNWT-Submission IN-89) advised the panel the GNWT will discuss the following issues in the Yellowknife session: Environmental concerns of tanker design; the effects of traffic on the ice regime and fields, polar bears and Peary caribou; ships tracks not examined or researched in the eastern Arctic and the need for warning devices; oil spill risks are not acceptable; oil spill in ice pack needs review; oil spill cleanup and counter measures; river oil spills; the use of dispersants; shore base at McKinley Bay, Tuk Harbour, etc.; onshore pipelines, shallow harbour pipelines; enclaves; stock piling; environmental effects on the offshore regime; effects on wildlife will be great, don't share industries assumptions on preparedness; need for wildlife management research for all species; cause and effects of change on bird population; mitigative testing; definition of monitoring; objective of monitoring must be clearly stated and agreed; wildlife monitoring information is not adequate; monitoring to an agreed standard must be achieved; all need research over time; harvest information in the Mackenzie Valley and Delta incomplete; fur record returns are inadequate; need for renewable resource industry; Alaska land claims settled too early; compensation is not adequate for oil spills, especially for third party losses; not enough large and small scale effects studies; study of social

economic community effects require planning and money; need to develop a social economic data base to identify essential impacts; social services are not adequate to respond to industrial activities; employment, training business development needed for northerners as are apprenticeship programs, adult education plus affirmative action programs in industry; business opportunities are needed to stabilize the economy of the North; Beaufort Sea oil and gas will strengthen the NWT economy as well as tourism; unions must not prevent access to employment; need community involvement in rotational program; and alcohol and associated risks.

Whitehorse, Yukon

1 December 1983

Opening Statements

Morison (Regional Director General, Yukon Region, DIAND-Submission WH-17) noted that the government and the people who make up the Yukon are different than those in the NWT. The YTG has been considered for some time to be the voice of the people of the Yukon. The people look to the political and government systems to handle their concerns. It is only with the recent exploration agreements that there has been an expansion of oil and gas activity westward into the area of the Yukon Coast. The majority of Yukon Regional involvement with respect to oil and gas activity has been through the NWT Regional Office and through COGLA at Yellowknife. The thrust of the oil and gas industry in the NWT is based on the Mackenzie River as the main supply system while Delta communitites provided the main source of northern employees and business involvement. With the completion of the Dempster Highway in 1979 an increased interest in oil and gas activities has been noted in Yukon business activities. The Dempster Highway provides year-round access to the Beaufort Sea and could be used to trasnport barite mined in the Yukon. Since 1980 there has been active lobbying by Yukon businesses for greater involvement in the Beaufort Sea. Industry proposals for a deep draft port on the Yukon Slope, an application for exploratory base and port at Stokes Point, wuarry and port at King Point, plus the Park proposal have sharpened Yukon's awareness of opportunities in the Beaufort Sea region.

The Department's responsibility is to ensure that as development proceeds the environment and interests of Northerners are protected. Review and regulatory approval processes are in place in the Region to ensure these responsibilities are met and include the Land Use Advisory Committee, Yukon Water Board, Arctic Waters Advisory Committee and Regional Environmental Review Committee. These will review and manage specific components of Beaufort Sea Development. Similar committees, regulations and processes exist in both territories however there are very distinct differences on how these operate in the two regions. There is a departmental concensus on a "one window approach" and of it's value to both government and industry. When implementation comes it must be

realized that the processes are different. They reflect the different needs and aspirations of each Territory. The Department is taking steps to ensure Yukon's involvement in the project by developing new mechanisms including the Northern Benefits Committee and the Economic Resource Development Agreement. Steps are being taken to improve liaison with NWT Region and Ottawa to ensure the transfer of pertinent data from the Norman Wells monitoring project.

DFO (Submission WH-5) explained that they have adopted an approach to development designed to ensure the long-term well-being of resources while attempting to reconcile the needs of the hydrocarbon industry. DFO is committed to co-operative resource management and expects to work co-operatively with other government agencies and northern residents in protecting resources. Main concerns include:

- Shore bases, exploration and production facilities may be subjected to severe marine hazards and such hazards should be included in the site selection criteria for future facilities;
- The impact of dredging upon fish;
- Ice breaking by vessel traffic will disrupt the sea ice (epontic) community;
- To detect, contain and clean-up spills under adverse Arctic marine conditions;
- Possible impacts on ice break-up caused by the presence of artificial islands;
- Safety of unproven technology for shipping and offshore exploration and production facilities;
- The cummulative effects of underwater noise;
- The effects of industrial waste discharge on the environment;

- Overland pipeline impacts on aquatic resources; and

- Development impacts on populations of fish and marine mammals that are important domestic, recreation and commercial resources;

An on-land focus to development is considered preferable on account of the better scientific data and understandings, proven technology and expertise, reduced and more localized risks to the environment and it's biological resources.

DOE (Submission WH-6) noted the Porcupine caribou herd has been harvested by native people for millenia and they continue to rely on the herd as an important source of food. The continued availability of the herd is essential to their well-being. Petroleum development activities and related support road infrastructure proposed on the range of the herd can have negative effects on the herd, either directly or indirectly. Many of the undersirable effects of a localized industrial activity can be successfully mitigated but the effects of a complex of exploration and development sites could have cumulative and synergistic effects on caribou. Only through comprehensive regional planning can such effects be minimized.

MacPherson (BSA-Submission WH-12) indicated that the Northern Yukon resources warrant ecological protection and in this regard there will be a need for more EARP hearings. The Beaufort Sea Alliance wishes to see full Yukon participation in all Beaufort Sea Developments but recommends a small pipeline because it is economically and ecologically sound.

Smith (Commissioner, Northern Canada Power Commission-Submission WH-2) noted NCPC's prime concerns regarding Beaufort Sea oil and gas development and production; the demand for electricity, either for production or to serve communities, and the availability of fuel supply for the Commission's operations. The rate of population growth suggested for Inuvik together with the demand growth for electricity and other utility services presents a particular challenge. The relative emphasis on pipelines in the recent submission of the proponents introduces a proportionally greater potential impact on NCPC's operations. Electrical generating capacity at Inuvik and Fort Simpson was expanded in the early seventies to meet an emerging demand for electricity which did not take place. On the basis of experience it is prudent for NCPC to approach with caution spiralling demand forecasts for electricity resulting from mega-project proposals and the potential impact on communities. There is no machinery available to meet the needs of the population projected of ten thousand in 1990 with a potential population

in the year 2000 of twenty four thousand. Impacts on Tuk have not been adequately addressed in the EIS and the infrastructure needs to be provided now, not after the fact. Tuk's fuel is barged in from Norman Wells however if it were available locally they could supply all local communities. Hydro is an alternative which must be examined thoroughly. A pipeline would assist with the development of the Mackenzie power grid but the electricity demand is not known. If fuel for generating electricity was available without the transportation cost it could mean a much cheaper price in the Delta which could in turn be passed on to users such as NCPC and members of the local community e.g. charge the Edmonton gate price less the pipeline costs from Norman Wells. (Richardson (panel technical expert) suggested the possibility of an oil pipeline, a Polar Gas line plus a NCPC transmission line plus other developments depict a substantial energy corridor.) The transportation corridor must encompass roads, energy and transmission lines. (The panel noted that NCPC had been involved in the Alaska Highway gas pipeline and enquired how long a lead time is required to develop hydroelectric power.) NCPC would require seven years to develop a medium-sized plant (fifteen mega-watts) and if a larger plant is required then possibly ten years lead time would be needed. (The panel inquired about discussions with the proponents concerning hydro-generated power.) No discussions have been held with the present proponents however extensive discussions have been held with other proponents, particularly the Mackenzie Pipeline proponents. During these discussions a potential site on the Mackenzie River was noted. Plans developed at that time will need updating. Such a project could go ahead very quickly on the Great Bear River.

Pearson (Government Leader, YTG-Submission WH-18) spoke on the Yukon's role in the Beaufort Sea development and the impetus underlying the Yukon's effort to become involved. The Yukon's responsibilities and commitments to the people of Old Crow, policies regarding development on the North Slope, resource management and participation in the management of the development reflect the Yukon's desire for long-term involvement in the Beaufort Sea developments. Yukon has a critical role to play in Beaufort Sea Development built around a skilled and available Northern work force and competitive business sector. A recent survey indicates that a large portion of Yukoners wish to be employed in the oil patch. A very diversified business sector has developed. The YTG will play the role of a facilitator, work to promote involvement of Yukon businesses and workers and strive to protect the interest of Yukoners e.g. the potential distruction of the Porcupine caribou herd, the need to protect wildlife and critical habitat on the North Slope, the planning process to take into consideration the protection of the social and cultural environment of the Old Crow people, and the establishment of a national park within the north Yukon. This planning approach will provide for public hearings. The need for a deepwater harbour on the north Yukon coast is recognized, this must be a

multiple use facility located in a carefully regulated development area and managed by groups having substantial regional and local membership. YTG's responsibilities for wildlife management in the north Yukon will be clearly defined and governed by strong regulations. Thus the phase-in of facilities will be considered as a period of controlled study in which human - wildlife interactions can be monitored. Yukon's overall role in the management of Beaufort Sea Developments is an evolving one. The YTG will work co-operatively with all involved parties on development issues and ensure that decision-making bodies regulating and managing the activities include strong representation from the people of Old Crow and other communities. The Yukon, as a region, will benefit from Beaufort Sea oil production.

Environmental Effects

MacPherson (BSA) suggested that the National Energy Board 1978 recommendations on the North Slope indicated that attempts to provide mitigative measures for the North Slope were limited and asked the proponents why they now feel their proposed mitigative measures would work. (The proponents noted that the Gulf-Stokes Point proposal is entirely different to the one examined by the Berger Inquiry and the National Energy Board and that the proponents have more information on the effects of development on caribou. The proponents feel that the shore-base developments would not approach the level proposed in the Berger review. Richardson (panel technical expert) asked how crucial a north Yukon base is to the production of oil and gas in the Beaufort Sea. The proponents noted that until oil is discovered they are not in a position to say if a north Yukon base is crucial for production.)

Jakimchuck (panel technical expert) basically agreed with the shorebase analysis contained in the proponents documents; it can be built if there are appropriate mitigative measures in place and they are applied conscientiously. The Mount Sedgewick quarry and all-weather road would require very strict monitoring and the strict enforcement of the mitigative measures proposed by the proponent. Would prefer not to see the proposed extension of the Dempster Highway from Fort McPherson to King Point as a permanent road because it would allow public access and related implications for increased hunting and harvesting of the Porcupine Herd. (The panel asked what would occur if the eastern edge of the calving grounds were eliminated.) The assessments of the effects of Prudhoe Bay on caribou calving grounds are controversial. There is more than one viewpoint. Alaska State researchers have stated "interpretation of observations along the TAP corridor/Prudhoe complex is superficial, conclusions are tentative, based on unadjusted data". There is limited baseline information on calving distrubiton prior to development, what is available suggests the area never did host a large density of cows and calves, and, that the major calving areas were to the west and east. With the type of shorebase development proposed there will be no significant effect on the calving performance or productivity of the herd.

Martell(DOE) noted presentations made by DOE on the Porcupine Herd are consistent with those of the State of Alaska. It is useful for the panel to see the state's position on petroleum development and caribou. Similar activities could have very negative effects on the Porcupine Herd. Many of the undesirable effects of a localized industrial activity can be successfully mitigated but the effects of a complex of exploration and dvelopment sites, with air and ground access routes and collection and delivery systems, will have both cumulative and synergistic effects on caribou. These effects can only be considered through comprehensive regional planning and where mitigative measures are not possible constraints can be implemented. These measures can be designed when there is a specific project to consider but there must be research in order to develop these measures or to modify them once development takes place. There has been research on caribou and much has been learned of the ecology of the Porcupine herd but there are still some areas that need close attention and research if development is to proceed on the herd's range.

Manfred Hoefs and Don Russell (YTG-Submission WH-19 and WH-19B) noted:

- the Porcupine herd is one of the world's largest remaining caribou herds and is estimated at 130,000 animals;
- it is the most important renewable resource in the northern Yukon;
- the herd is of economic and biological significance, is important internationally and inter-territorially;
- significant knowledge of the herd has been provided through the Canadian Wildlife Service;
- proposed developments may cause disturbances at critical times during the annual life cycle of the herd e.g. hunting pressures, range alteration or destruction, human activities, increased numbers of predators and scavengers;
- YTG is concerned because 9 industrial developments have been proposed which may interact with the herd; and
- to minimize impacts, detailed monitoring and regulation together with elaborate mitigative measures must be in place.

(MacPherson (BSA) asked about the potential of industry activity displacing bulls at King Point.) Surveys largely focussed on calving caribou. Evidence suggests King Point area is traditionally used by up to 50% of all bulls. (MacPherson noted that caribou do react to activity but the overall magnitude of the effect is not being evaluated). A multitude of development activities will have effects that are cumulative and may or may not have synergistic effects e.g. hunting along the Dempster had synergistic effects therefore there must be multiple steps of mitigative measures. The Dempster goes through the winter range and the spring/fall migration routes of the Porcupine

herd. Despite legislation there has not been tremendous success, it's an enforcement problem. (The panel asked if research is needed or planned on the reaction of caribou to traffic and linear development.) Work needs to be done in the area of potential coastal roads and along the Dempster. Monitoring of overflights could involve local users of the herd. With concrete guidelines anyone who has a sound technical training could carry out monitoring activities. If a greater degree of judgement is needed then added scientific background and experience would be needed.

Ennis (DFO -Submission WH-11) noted:

- the abundance and distribution of fish in the Beaufort sea is controlled by production of plant material. This is low in the Beaufort which limits the development of pelagic fish;
- marine species are not important in the domestic fisheries on the Yukon coast but are important to marine mammals and birds;
- subsistence fishing takes place for white whales in Yukon waters and for bowhead whales in Alaskan waters;
- construction and operation of Yukon shore bases could impact marine and freshwater fish and habitat;
- to reduce impacts, shore base facilities must be shared. Must be selected on the basis of a comprehensive land use planning exercise which considers fishery values and the requirements of other users; and
- if the results of research show a port site is feasible then an EARP review must be implemented.

(Richardson (panel technical expert) inquired if DFO, with the information it has on hand, prefers a port location on the North Slope). DFO has not yet analyzed the data in that context. Don't have any secret spots. Have much information on several spots that we can usefully contribute to a land use planning exercise.

Wykes (DOE-Submission WH-27) noted:

- the entire area of Yukon north of the Porcupine and Bell Rivers was withdrawn by Order-in-Council in July 1978 for development of a national park and other conservation purposes;
- the withdrawn area requires special measures to protect the national and international resources in it;
- it is one of Canada's foremost heritage areas;
- development activities which may be permitted would be subject to stringent terms and conditions;

- native people should be involved with the management of the area;

- the EIS outlines several proposed developments which would have implications for a national park e.g. shore bases, quarries, camps, roads, air and sea transportation corridors;

- oppose any developments within the proposed park e.g. Stokes Point harbour and Mount Sedgewick quarry;

- oppose any decision making on industrial development within the withdrawn area without regard for due process; and

- no action should be taken at this point to estalbish shore and harbour facilities on the Yukon North Slope.

(The panel asked if the proposed park boundaries include the granular deposits at King Point. Rennie (Parks Canada) indicated they do not). The proposal for the national park boundary will be reviewed in an open forum, accommodating all interested parties. (MacPherson (BSA) asked about a public road adjacent to the park boundary. Rennie noted the boundary will be placed according to the best possible position for it.
If there were to be a road from King Point, Parks Canada would prefer to have a buffer zone between the Park and the development zone since they do not have direct control over activities on the periphery of a national park. Richardson asked what process would be approrpiate in determining how a development activity with negative impacts would be permitted if the national interest outweighed the national and international value of the wildife and habitat). A rigorous analysis, through a public forum which bears in mind conservation interests, based on an individual application, e.g. an EARP panel, would be appropriate. (Martell added that a national wildlife area would have a Cabinet level decision based on advice from an EARP panel. It may even be a purely political policy decision.)

Hoefs, Mossop, Smith, Kuhn and Russel (YTG) noted:

- the YTG leader is on record saying that the Yukon supports the proposed developments because of employment and business opportunities and other economic benefits it would bring, and, that social and environmental impacts will be kept to an acceptable level;

- YTG is concerned with potentially adverse effects of industrial development on the environment in general and on wildlife in particular;

- YTG endorses the technical submission on carnivores prepared by GNWT;

- 120 species of birds use the Yukon coastal plains and the Beaufort Sea coast areas;

- o YTG recognizes the importance of many areas as critical habitats for a variety of wildlife but it's capabilities of protecting these are limited. The Federal Government has jurisdiction over land and land use;

- o various YTG recommendations for the establishment of parks have not been acted upon therefore habitat issues cannot be adequately addressed;

- o formal designation of key wildlife areas should occur through the land use planning process;

- o with proper precautions, adequate mitigative measures and acooperative spirit, adverse impacts on wildlife can be kept to an acceptable level;

- o Kint Point is the preferred location for a harbour site. The location proposed by Kiewit is the preferred quarry site. Land use permits for these should address (a) monitoring of caribou from mid-May to late June, (b) monitoring of other wildlife in the area, (c) controlling road use during critical wildife periods, (d) monitoring of other activities e.g. blasting, (e) strickly controlling employee activities, (f) controlling overflights, and (g) revegetation test plots; and

- o additional staff are required to meet the increased workload.

(The panel chairman reiterated comments that land use planning is essential and asked what is the process for Yukon and the mechanism that will bring together the various concerns). Morison (DIAND) explained the framework is essentially the same as in the NWT; it is in draft form and the final elements have not been concluded. DIAND is currently recruiting a Director of Land Use Planning. (The panel chairman suggested it could be 3 or perhaps 4 years before a plan is in place for Northern Yukon). That remains a possibility but given the priority seen by YTG and the Federal Government it would be one of the first areas to be addressed and could be done within that period or earlier. Some can be implemented prior to the total plan being approved because of the interaction processes between regulatory agencies and the land use planning group and the Commission.

Staples (BSA) asked, in light of the YTG's wildlife department's limited experience and YTG's database on the northern Yukon, if YTG is adequately prepared for making informed wildlife management decisions. (Hoefs explained YTG has very good data for certain species. The wildlife management program has existed forl0 years and much effort has been exerted to get information on caribou and falcons. Information is not so good on some other species). Is the information good enough to support the proposal put forward in the Northern Yukon Resource Management Model. (Hoefs noted the planning exercise hasn't started yet). YTG says it supports one port facility at King Point. This is a change from it's submission to the North Slope Project Review Group where it advocated 2 sites. Is YTG content with one site. (McTiernan (YTG) expalined a

temporary port facility at Stokes Point, in support of exploration, is supported. Funding for studies related to data collection will be available in the next fiscal year through NOGAP.)

Whitehorse, Yukon
2 December 1983

Environmental Effects

Leblond (BSA - Submission WH14) indicated the central issue confronting the panel is recommending conservation of the northern Yukon, in accordance with longstanding government policy, or a permanent port on the north Yukon coast. Both Berger and the National Energy Board recommended against any development in this area. Industrial development is now being considered before the government's goal of establishing a National Park and other conservation purposes are achieved in this area. There should be no permanent port on the northern Yukon coast; conservation planning and management of the area's resources should be initiated immediately. (The proponents asked how the proposed planning regime relate to DIAND's land use planning process.) Planning should proceed now and not wait 10 years for the DIAND planning. (The panel asked about Dome's current position on a Yukon coast port. Dome noted that a port is not required at the present time. When in production, however, there will be a requirement for a deep draft port at King Point. Gulf's application which was rejected by the Minister of DIAND was for a temporary port and marine support base at Stokes Point and these facilities are still needed although they are able to operate off floating structures. In the long term Gulf will need a base at King Point. Esso wishes to remain flexible on its future needs.) A national park/wilderness area is irrelevant if it is only for the protection of the Porcupine caribou herd. A management board and international treaties are needed to protect habitat and the herd. (Martel (DOE) explained that native groups have drafted conditions and terms of reference for the Minister and these are currently under review. User groups are consulted in management and harvesting matters. There is a need to develop a set of principles for wildlife management. In a conservation/wilderness area all activities are prohibited by regulation but may be allowed by permit or by posting e.g. hunting, tourism, industrial development. Richardson (panel technical expert) asked about the legal process to establish, abolish or modify a wilderness area. Martel noted this could be done by an Order-in-Council.)

Forbes (Geological Survey of Canada) noted that the EIS makes little reference to coastal erosion and sedimentation There is a need for further discussion on the integrity of artificial islands and their effects on ice regimes and coastal erosion. An assessment on the potential for sediment transport and fish diversion must be made on the proposed causeway at King Point.

Socio-Economic Effects

The proponents (Submissions IN63 and IN69) employ northerners and currently have 100 Yukoners on the payroll. The effects of Beaufort Sea development on Old Crow will be similar to other wayward communities; there will be no influx of workers to their community. The proponents will assist the community in taking "ownership" of their problems such as the effect of worker incomes. The Yukon has a skilled work force and good training facilities which, in conjunction with rotational programs and flexible schedules, will assist in employment of Yukoners in Beaufort Sea developments. Quotas and pay premiums will not be established for goods and services. The proponents have spent $6 million in the Yukon this year. The key to all is open and continued consultation.

Klassen (YTG, Health and Social Services-Submission WH-20C) noted that the proponents believe there will be no influx of transient workers and asked how they will disway these transients. (The proponents will cooperate with governments and will advertise that opportunities will not be available to non-residents. Recruitment will be done through hiring halls in the north or in the south.) Are rotational job opportunites being provided for Yukon residents and are the proponents undertaking studies of the social impact of rotational programs on communities. (The proponents want communities to take ownership of problems. In addition, the proponents will have counsellors and ongoing monitoring in conjunction with governments e.g. Norman Wells Project Offices and related monitoring activities.)

Ferbey (YTG) explained that the YTG will engage in cooperative planning to ensure the orderly development of resources. This will require that the Government of Canada and industry:

- provide information to YTG with which to assess the activities being proposed and undertaken;

- involve YTG in all phases of development, including all measures related to emergency contingency planning;

- define long-term material and manpower needs;
- identify new technologies that could be produced in the Yukon;
- provide sufficient lead time and allocate funds for infrastructure expansion; and
- streamline the regulatory system to facilitate the review and approval of industry proposals and clarify the regulatory role of governments in onshore/offshore activities.

With respect to Beaufort Sea developments the YTG position is that:

- all Yukon residents must be given job, training and business opportunities;
- it is committed to the fair, prompt and equitable settlement of land claims;
- planning for oil and gas development must take into account the particular perspective and aspirations of all Yukoners;
- Yukoners must receive an equitable share of revenues and benefits derived from oil and gas developments;
- hydrocarbons should, where cost effective, be used to service Yukon energy needs;
- it must play a full role in Beaufort Sea development discussions; and
- it supports industrial development of oil production only in the context of a land use planning process and port development is restricted to a single port.

Bower (Chamber of Commerce - Submission WH-8) noted that the repetitive nature of the federal review system is frustrating but since North Slope development is so vital, the Chamber of Commerce will continue participating in the process. The Yukon economy has been severely set back: only one mine is operating and that is at a reduced level, the railway has been mothballed; unemployment is 20%, 1,000 jobs have been lost; and, the population is down by 2,000. Beaufort Sea development is one limited opportunity available for a revival of the Yukon's economy. The decision against a north Yukon port development raises concerns that development will be excluded for the sake of

preservation. The Chamber of Commerce believes in the concept of permitted, managed-use with environmental protection regulations which will allow development to occur in a manner that maximizes benefits to the people and minimizes costs to the environment. Further erosion of the business sector will leave local business in a non-competitive position which will force developers to purchase from the south. The government decision-making process must be clarified and the rules governing the project must be made explicit. The Chamber of Commerce recommended that:

- the Yukon must have meaningful employment opportunities;
- the federal government must establish a positive atmosphere for development;
- a coordinated and streamlined approvals and monitoring system is needed;
- there should be a devolution of authority and power from the federal government to the territorial governments;
- a northern development strategy must be created, and
- land claims must be settled.

Father McAllister, OMI (Submission WH-7) commented on ethical principles and drew the attention of the panel to two documents issued by the Canadian Conference of Chattel Lake Bishops "Northern Development At What Cost?" and "Ethical Reflections On The Economic Prices", and noted these documents speak of ethics as applied to the industrialization of the Beaufort Sea.

Hayes (Mental Health Worker - Submission WH4) stated that the Department of National Health and Welfare does not seriously consider mental health in the NWT; a position for a mental health worker at Inuvik has just been filled after being vacant for some months. Communities should take total control of the day to day health services. Such local control will permit responses to the problems that people see rather than the problems National Health and Welfare sees.

Perry (YTG, Heritage Branch - Submission WH-10 and WH-25) outlined the need to protect the extensive historical remains on the North Slope. It is a fragile non-renewable resource in need of a fully funded research and protection

program. The Yukon's archaeological regulations would come through the DIAND Land Use Planning process while funding might come from NOGAP.

Cinq-Mars (National Museum of Man - Submission WH24) noted that the Archaeological Survey of Canada had been directed to work with heritage groups north of 60°. There is a pressing need to establish a central agency to coordinate all national archaeological works and all aspects of related research. On the North Slope, Stokes Point is a historical "dead duck" while King Point contains a tremendous amount of historical information.

Kapty (Trans-Air-Submission WH-23) indicated more employment and other opportunities must be extended to residents north of 60°.

Stevenson (Canadian Coast Guard) responded to questioning from the panel stating that CCG's mandate is to mount the freedom and safety of marine traffic. While CCG may manage small public harbours DIAND, as the landlord north of 60, has the lead in port siting. Proposed port sites may, at the request of the developers, be assessed by the CCG through the TERMPOL code process.

Whitehorse, Yukon

3 December 1983

Social and Economic Effects

Bishop Ferris (Anglican Bishop of the Yukon - Submission WH26) commented on the moral issues involved in the socio-economic dimensions of Beaufort Sea development as they impact on the northern Yukon. The people of Old Crow are the sole residents of the North Slope and deserve special consideration in land use planning in order to protect their vital interests. No new industrial development should be permitted until either native land claims are justly settled or terms governing that development are negotiated. The government has become a large partner in the oil industry and, with its aggressive energy policy, it may be impossible for the government to be impartial.

Motyka (Vice President, Operations, Gulf) explained that the Minister of DIAND has made a decision on Stokes Point and that is where the matter rests. It is, however, an example of the uncertainty and lack of commitment to development. Gulf supports the government's objective to develop oil and gas in the frontier but the government must be committed to development activities and not impede them. The greatest uncertainties are not the geology or international markets but government policies, regulatory processes and the uncertainties of departmental responsibilities. Direction must be clear, timely, consistent, integrated and not delegated to committees. The North Slope Review Committee took so long in forming that it was harmful. The government should set and keep deadlines. DIAND's responsibilities are being eroded by COGLA and special interests groups. Development is a mega-decision which must have a mature decision because once implemented it will not be easily changed. Industry must know the pace, there must be clear, coordinated Beaufort Sea policy by Cabinet and a lead agency to deal with it all. There must be a project coordination office in the Beaufort Sea Region as soon as possible. The present lead time should be used to do research and develop baseline data. Monitoring should be carried out through well-defined programs. (The panel asked who will be the lead agency in the Beaufort Sea development.) It is inappropriate for industry to say as this is clearly a government decision, probably it should come from the DIAND northern development group. There is confusion with the signals industry is receiving as to who calls the shots. The senate suggested the appointment of a project coordinator responsible to the Minister. (MacPherson (BSA)

stated that COGLA encouraged Gulf to apply for Stokes Point. Now that it is cancelled there seems to be conflict between the two arms of government.) Gulf bought a large drill unit and needs a marine base as part of the approvals package. However, there were appropriate reasons for the refusal and Gulf understands. Under COGLA, Gulf has a finite time to perform in order to keep oil and gas "rights". Decision-making must be timely, industry will spend up to $10 billion so the project cannot be stopped/started/stopped. Its the consumer/ taxpayer who pays. (Ferbey (YTG) asked what role the territorial government should play in Beaufort Sea development.) A strong federal agency, with participation from all interested parties, must seek consultation from all parties. (Staples (BSA) stated that the ad hoc approach to northern development frustrated everyone. There is a need for a stable game plan. Land Use Planning is a vehicle to overcome these frustrations but DIAND is muddling along. Richardson (panel technical expert) asked if a body similar to the Northern Pipeline Agency or the James Bay Authority could, with departmental powers delegated to it, govern Beaufort Sea developments.) Each department has its own responsibilities. What is needed is one small group to coordinate all these responsibilities and activities.

Morison (DIAND) reiterated that the Yukon has evolved in different ways and at different rates when compared to the NWT. (Staples (BSA) noted there are differences in the two territories causing a need for a trans-boundary planning framework and yet there will be two commissions for land use planning.) These two commissions could plan on a joint basis. (Motyka (Gulf) indicated the government must get its act in shape. A small coordination office, under the direction of a well regarded official, is needed to act as a communicator to decision makers, lead a small planning group and ensure discussion occurs.)

The panel asked about the criteria DIAND uses to decide on the location and development of a port. (Ganske (DIAND) stated there are no special criteria. The regulatory process and review by committee, where appropriate, will be used. If necessary the TERMPOL process will also be used.)

Government Management

Ferbey (YTG - Submission WH-21) gave an overview of the YTG management responsibilities vested by the "Yukon Act". A coordinated management effort must be made through one agency. YTG established a Pipeline Coordination Branch in 1977 to coordinate all YTG responses to the Alaska Highway Pipeline project and to provide a quick access to industry. It is YTGs intention to provide this function again through their "Major Projects Branch". The coordination role may be constrained by constitutional problems such as the land claims currently under consideration and by the land use planning process proposed by the federal government. YTG is resolved to act as a facilitator and to be represented on all decision making committees with respect to the Beaufort Sea developments. (MacPherson (BSA) asked YTG to describe its environmental assessment procedures. Hoefs(YTG)

explained projects are examined by RERC. Staples (BSA) asked how the Dempster Highway Corridor will be managed. Hoft noted a document has been circulated to the public for their comment and input. Hambridge (YTG) indicated the Muncipal Act 1980 is being amended to devolve planning processes to the communities. Leblond (BSA) asked what criteria are used to change the boundaries of a national park.) Constrained by current land claim negotiations and unable to answer.

Wykes (DOE - Submission WH22) discussed the withdrawn lands in northern Yukon. The entire area of Yukon north of the Porcupine and Bell Rivers was withdrawn from further development for a national park and other conservation purposes in July 1978. DOE's position is that the entire area requires special environmental conservation measures to protect the national and international wildlife and other outstanding resources of the area. The area has acquired international stature for the highly significant archaeological and paleontological sites which have been found. Because of these considerations DOE takes the view that any management regime must have conservation of wildlife and habitat as its overriding principle. Permitted development activities would have stringent terms and conditions to ensure protection. Public participation is important for planning, management and environmental assessment, as well as consultation with other national, international and territorial agencies. The treaty rights of native people and those rights recognized in land claims will be honoured. (Hoefs(YTG) wished to know what management regime would allow Indians to hunt and trap in a park, what policy would permit scientific investigations, and what concept for wildlife management would be used. Rennie (Parks Canada) indicated an advisory body would be established to involve government agencies and local natives; would establish a regulatory process for research activities.)

Boyd (DFO) noted the single window concept is acceptable as long as it can be seen through.

Ferbey (YTG - read Submission WH-21 on behalf of Mr. Pearson the government leader/YTG). Amazed at the number of land use planning questions and appalled by the questions which are land claims based because these items are still under discussion. BSA are aware of this and the YTG will not jeopardize the dicussions currently under way and will therefore not provide the information required by the panel. YTG will be ready for Beaufort Sea development and supports a port on the North Slope properly constructed with due regard to wildlife and with a strong management mechanism. Require mitigative measures to counter the effects of uncontrolled in-migration, alcoholism, shift schedules, money management. Want early consultation and planning with a streamlined regulatory process in which YTG is fully involved.

Yellowknife, NWT

5 December 1983

Overland Pipelines

The proponents noted that the Beaufort Sea is a good oil and gas prospect and discoveries have been made. The proponents are challenged to build a safe transportation system. The technology is available and current experience is proving the proponents ability. (Brooks (BSA) noted that a small scale development is feasible and less objectionable.)

Josephson (DFO-Submission YK-11) explained DFO advocates an approach to development which will ensure the long term well being of marine resources. This can be achieved by appropriate mitigative measures and by prohibiting certain proposed activities. When assessing the overland pipeline proposal the existing environmental data base for the Mackenzie Valley is extensive. The project will involve a proven technology and benefit from the experience of the Alyeska and Norman Wells projects. The construction and operation of a pipeline in the Mackenzie Valley would be acceptable.

A varied and detailed discussion occurred:

- Risk analysis of river crossings come from world wide experience (IPL has 12,000 crossings) and there are no problems here;

- Testing is extensive, crossings use heavy walled pipe and other mitigative technical measures;

- No road is planned along the right-of-way. The route is inspected from the air and periodically on foot. No traffic is anticipated;

- No airstrips are needed for a 16 inch pipeline. There may be airstrips for a 42 inch pipe because of the larger work force. Such airstrips will not be licenced for public use. Maintenance and clean up equipment is helicopter portable;

- No summer construction will occur therefore no stream sedimentation. Diversion berms will be used to deflect down hill water flow at river crossings and other major slopes;

- Permafrost degradation needs careful handling;

- Multi-user right-of-ways may be acceptable provided they are technically feasible. There are no legal barriers preventing oil and gas lines sharing the same right-of-way. Regulatory agencies would have a say in licencing a shared right-of-way;

- Wildlife passage under elevated lines should not be a problem;

- Pipeline ruptures and oil spills are controlled by valves in strategic locations;

- Staff are trained to handle emergency events along the pipeline;

- The transfer of technologies and design criteria from the Trans Alaska Pipeline system (TAP) should be used with caution;

- TAP monitored through "pigs", instrumentation, detailed observation of the right-of-way, by security forces, over flights, and on foot;

- Corrosion of pipe is significant and is usually caused by the failure of the insulation jackets. It is repaired by excavation and reinstallation;

- TAP performs a continuous maintenance program, including checks for thermal erosion, particularly along the pipe centre line;

- Natural revegetation is quite rapid. The use of snow pads for construction on the tundra avoids any surface disturbance;

- Pipeline will be designed and constructed to withstand all the punishment the environment may offer. The proponents see the pipe as a structural member rather than a pressure vessel. Pipe will be thicker to withstand bending and wrinkling. Have used a lower temperature design to offset the possibilities of thaw;

- Shut down, even for one day, is not acceptable;

- Ownership of right-of-way is a primary concern. Need 200 feet separation between rights-of-way. Third party damage is a very major concern and, accordingly proponents must have controlled access;

- The effects of minor oil spills are easily handled. In winter oil will not spread, it is trapped in snow and vegetation.

- Mitigative measures are a concern where one agency has a certain interest while another has the legislation to protect the interest e.g. GNWT has the interest in raptors while DIAND has the lands;

- Environmental protection plans will be developed on a project specific basis and will interface with any regulatory body; and,

- It is simplier to work with just one agency.

Yellowknife, NWT

6 December 1983

Overland Pipelines

Ken Taylor (Polar Gas-Submission YK-12) brought the Panel up to date on the current status of Polar Gas for an Arctic natural gas pipeline. An application is planned for submission to government in the summer of 1984, for a 36-inch buried pipeline from the Mackenzie Delta to Edson, Alberta. This pipeline would be the first phase of a Y-line system, which would connect both Beaufort Sea reserves and eventually High Arctic reserves. (Brooks (BSA) expressed concern that spreading out the impact over a long period of time by gradually increasing the input to the pipeline, might in fact have a greater cumulative impact than building just once.)

Paul Grey (GNWT-Submission YK-2) This presentation concerned Wildlife Habitat Management.

John Donihee (GNWT-Submission YK-4) This submission provided an update on the current status of departmental efforts related to environmental monitoring, land use planning, and to compensation policy.

Mel Smith (GNWT-Submission YK-1) made a presentation on some of the concerns the Pollution Control Division has with respect to the situation in the Western Arctic. There is concern over the fate of the dump at Tuktoyaktuk. Toxic wastes could leak into the Beaufort Sea. Examples of several pollution problems were brought forward. (The proponents emphasized that industry would dispose of their wastes according to the law, and would transport to the south any toxic wastes.)

Bill Pearce (Interprovincial Pipe Line, Norman Wells Project) made a short presentation on the monitoring aspects and general management of the Norman Wells Project.

Brent Friedenberg (BSA-Submission YK-9) presented a paper on the economics of building a small size pipeline.

Kevin McCormack (DOE-Submission YK-3) CWS feels that a pipeline can be constructed within the Mackenzie Valley within tolerable limits. Care, though, must be taken within certain areas of special environmental consideration.

Brooks (BSA-Submission YK-6) presented a paper on the relationship between project scale and resulting impacts.

Steve Zoltai (DOE, Canadian Forces Service-Submission YK-27) presented a brief on how the EIS appeared to be very ambiguous in regards to engineering statements, such as whether the pipeline would be buried

or not and how stream crossing would be made. (The Proponents remarked at the end of this presentation that Mr. Zoltai could not have taken into account the back-up material, in which many of his queries would have been answered.)

Peter McCart (Proponents), in reply to a question from Dr. Brooks' (BSA) of the day before, explained what happened to an oil spill in 1979 from the Alyeska pipeline.

Yellowknife, NWT
7 December 1983

Community and Socio-Economic Effects - Mackenzie Valley

The proponents (Submissions IN-63, IN-69) presented their position on how they will deal with community and social effects. Questions were answered dealing with the boom or bust situation, employment, the Norman Wells experience and governemnt's abilities to respond to development.

Hart (GNWT-Submission YK-15) made recommendations that Beaufort Sea resources could be used for local supply and that industry be encouraged to assist in the development of community energy supply alternatives.

Margaret Bertulli (Northern Heritage Society-Submission YK-36) described the field school called the Northern Cultural Heritage Project. Participants in this project are mostly young Inuit who are given training in the fundamental skills required for scientific data collection through work on an archeological site.

The proponents made a presentation using maps to show the Panel and audience where exactly development would be occuring.

Greg McCormick (GNWT) also used maps to show wildlife habitats, their concentration and movements and important sites for migratory birds.

Brett Moore (DOE), by use of a map, pointed out the area for a North Yukon park.

Government Management

Cotterill (Dome) stated that past projects have been undertaken without long term, adverse social or environmental impacts. DFO and DOE expressed the view that within certain conditions the pipeline can proceed. Existing regulatory requirements and processes, while cumbersome, are adequate to ensure effective review and positive benefits. These systems work. There is a need to identify a lead department to articulate policy with regard to the pace, scale, and type of support required by impacted communities in a timely manner. Should have a senior representative in the north to deal with operational aspects of policy and to coordinate government, industry and community input (e.g. through DIZ groups.)

(Gilmore (GNWT) questioned COGLA on the surveillance of occupational health and safety on offshore drill rigs and requested the name of the agency regulating safety on Canada Lands.) Thomas (COGLA) responded that safety programs are administered by COGLA through the Oil and Gas Regulations and the work safety standards of the Drilling Regulations. The occupational health and safety inspections are carried out by inspectors who, while not trained in health and safety, are well experienced in this regard. (Gilmore noted that COGLA was using unqualified personnel while GNWT has a safety office capable of providing the service. This shows the existence of regulatory problems in this and other areas. Nova Scotia has a provincial inspector agreement and a similar arrangement could be used in the NWT. Urged COGLA not to wait for another "Ocean Ranger" in order to decide who has the responsibility for worker safety.

Beaubier (Director General, NWT Region, DIAND), Mar and Meldrum (Norman Wells Project, DIAND-Submission YK-39) discussed the Norman Wells Project noting:

- DIAND does not have exclusive jurisdiction in the area of regulatory controls;
- We are all operating in a constantly changing political environment, e.g. more responsiblity going to the GNWT, land claims and division of the NWT;
- DIAND is not operating under new legislation, the system works well;
- The challenge is to manage a total project. The principal structures operating in the region on which project regulation is based are found within the divisions of land resources, water resources, forestry and the Office of Environment and Conservation;

- Regional land use planning has been developed as a cooperative process which will provide a framework for decision-making in the north. The key components of the process are a policy advisory committee and a land use planning commission, both of which will provide an effective tool to address resource management issues;

- Northern Benefits Committees have been formed to maximize benefits from exploration agreements;

- The Norman Wells coordination office manages the Norman Wells Project at large, providing a visible point of contact to resolve any problems associated with the project;

- The coordinator ensures that the proponents live up to commitments arising from project terms and conditions which will maximize benefits and minimize adverse impacts; and

- Coordination and consultation mechanisms include the committee set up to facilitate the coordination process and information exchange, a management committee which reviews the status of the project and the achievement of goals and objectives, and, a community advisory committee which advises the Minister of DIAND of local interests.

(The proponents asked about the status of Norman Wells impact funding particularly the training fund.) Meldrum explained $21.4 million in impact funding was agreed to as incremental funding to come through existing programs. Each call has to be approved by the Treasury Board. So far $3 millionhas gone to GNWT, $2 million to Dene/Métis for community works, $1.5 million for a Dene/Métis joint venture, $700,000 for a community advisory committee. Training moneys of $9 million are for CEIC programs and the delivery and preparation of training. Training programs are in place but funds have not been drawn on. (The panel asked why the GNWT's share was only $3 million.) This was a Cabinet decision. Delivery of funds has not been delayed. Early 1982 GNWT asked for $124,000 which was sent and then returned. GNWT now has $3.54 million. (The panel asked if GNWT's advice and approval was sought for the allocation of the $21.4 million.) GNWT was active with the Dene in determining how funds were allocated. (Devitt (GNWT) stated the allocation of funds to GNWT is inadequate.)

(The panel asked about OC-35, the NEB certificate of necessity and convenience, concerning who reviews all of these different terms and conditions placed on the proponents, who inspects, enforces on a timely basis, do they have authority to follow-up do they have the knowledge to do the job.) Dunlop (DIAND) explalined both NEB and DIAND conduct inspections to ensure compliance with terms and conditions placed on licences and permits. Land use inspectors have the authority to shutdown

the operator. All project reviews are done at the front end before a licence or permit is issued. Additionally, applications are also reviewed in-depth by the Land Use Advisory Committee before a permit is issued to ensure there are no gaps in any examination.

Richardson (panel technical expert) noted that numerous committees lack GNWT representation e.g. on COGLA and CCG committees. (DIAND noted that committees have arisen as a result of community pressures. DIAND is looking to a single point of consultation. GNWT is well represented on Northern Regulatory Committees. DIZ groups are an excellent mechanism for consultation. The resource development policy causes some difficulty in intergovernmental relationships. The panel chairman concluded that the problem appears to be the evolution and devolution of authorities to the GNWT and the direction DIAND perceives it is going with respect to those responsibilities presently held. There could be changes for the future.)

Erikson (panel technical expert) asked if COGLA will accept the recommendations of the Northern Benefits Committee without modification. (Beaubier explained COGLA must consult with other agencies in order to come up with an acceptable package which has to be integrated with other concerns.)

The panel noted that the DIAND Norman Wells coordination office is the focal point for concerns and asked how it works when a group or individual presents a concern. (Mar explained the process is one of consultation, of issue resolution, of the meeting of interested parties to arrive at a concensus. The aim is for resolution at the lowest level but will go to the top if necessary and where there is disagreement the office will conduct an independent audit. The process is open and continuing.) Why does the Community Advisory Committee (CAC) go directly to the Minister then to the coordinator. (This ensures access to the political level rather than through a bureaucratic process. The CAC is not constrained to channel its comments through the coordinator.) What rank should the coordinator hold. (Scullion (DIAND) recommended the coordinator should be somewhere between a senior Director General and an ADM. Beaubier noted no discussions have been held so far, however, the coordinator must be at a level in government to have freedom of action and to get things done.) Are applications to the NWT Water Board subject to public review. (Redshaw (DIAND) explained the Water Board appoints community members to a technical advisory committee who examine applications. The Water Board can hold hearings on any water use.)

Richardson asked to what extent is COGLA involved in the regulation of socio-economic and environmental impacts. (Mar explained that COGLA approves project designs.)

Donihee (GNWT) suggested that a mechanism for a Beaufort Sea coordination office is needed. (Mar outlined the regulatory process which is in place. The coordinator brings these into integrated working arrangements). The Norman Wells Environmental Agreement is monitored for compliance. What other agreements have monitoring requirements (Beaubier noted most permits and licences, especially water, have terms and conditions plus monitoring requirements attached. Dunlop explained the monitoring package for IPL comes through observation by NEB on a daily, weekly and monthly basis. Moore (DOE) indicated the scientific monitoring group is not a formal part of the coordination office.)

Guimont (DIAND-Submission YK-8) explained the Arctic Seas Contingency Plan, a draft document by a group chaired by the deputy commissioner, GNWT. (Gilmore (GNWT) note that COGLA has responsibilities for pollution control on a structure and asked how COGLA intertwines with other agencies; who is the lead agency.) GNWT is part of the task force and aware of COGLA. DIAND is the lead agency.

Crozier (CEIC-Submission YK-34) explained CEIC's programs and services provided for northern hydrocarbon development and its resultant effects on the northern labour force. (The proponents agree with the concept of human resource planning. The industry is an equal opportunity employer. There has been a steady perceptible progression by northerners within Dome. Gilmore requested the definition of northerner.) As a federal agency CEIC provides services to all Canadians. A northerner is a resident of the NWT. (Panel technical expert asked what happened to CEIC's $9 million Norman Wells training fund.) Don't know if it even exists.

GNWT presented Submissions YK13 "Analysis of Government Revenue Sharing" YK15 "Energy Futures" YK16 "Proposal for Settlement of Revenue Sharing Agreements" YK17 "GNWT Participation in NOGAP" YK18 "Funding Related to Resource Development". (The panel chairman indicated these submissions may be political issues and the panel may not have a mandate to hear the interventions. The panel does not wish to intrude into ongoing negotiations.) Devitt explained the impact funding for Norman Wells is not adequate. Impact funding must be received in advance of approvals. Can't dispute the amount given but have problems with the process which gave it.

Stein (DFO - Submission YK37) explained DFO supports a "one window" approach but this must be clarified by DIAND's regulatory review. Inspection capabilities are stretched. DFO has tried to reinforce staff through NOGAP but this has been rejected. Currently monitoring the Norman Wells project.

(The panel noted that YTG stated there have been problems with hunting along the Dempster Highway by non-residents from Fort McPherson and inquired about GNWT plans to impose restrictions on this hunting activity or to liaise with YTG.) Monaghan (GNWT) noted there is complex legislation in place which is difficult to enforce. The situation is being reviewed with YTG and the people of Fort McPherson. (The panel asked if an energy corridor concept is preferable to individual rights-of-way.) Donihee explained that a definitive answer can't be given since there have been no studies conducted on this topic. (The panel inquired about the void the DIAND Task Force on Northern Conservation fills.) The task force will help reconcile a broad range of proposals for land management regimes in the north by defining the various interests, integrating programmes, and developing a policy and administrative framework. The eventual product may be brought into the land use planning process. (The proponents noted GNWT has expressed concern about the the renewable resources data, the ability to project the environmental facts, the effectiveness and timeliness of mitigative measures and the current state of preparedness of the government to deal with issues, many of which fall within the mandate of GNWT. Is the GNWT prepared to submit an action plan to deal with some of these issues, supported by financial and human resources to implement the plan. The panel chairman noted it would be useful to have an idea of the magnitude of the resources, people and programs required if this development were approved.) Monaghan indicated this is a monumental problem as well as an opportunity for northerners, through this forum, to bring the information together to find solutions and resources to address the problems raised. Some of this work has been done through the Northern Oil and Gas Action Plan (NOGAP) exercise. GNWT will rely heavily on NOGAP type funding to assist in this action planning.

Zariwny (GNWT-Submission YK-29) explained the GNWT seeks to be involved in relevant decision making at all levels and this does not mean NWT political leaders have their concerns voiced through civil servants. The GNWT expects that the structures and processes used by the Federal Government will recognize GNWT as the one representing the interests of all peoples in the NWT. (Richardson asked if GNWT is concerned with the mandate of COGLA.) GNWT's concern is two-fold:

1) GNWT officials and the Executive Council have no direct access to the Polciy Review Committee of COGLA which co-ordinates northern policies and concerns and the officials who sit on this committee should not speak on GNWT concerns and needs. GNWT needs a representative on this Committee. If this can not be done then the advice which goes to the Committee should be provided jointly by Mr. Faulkner/DIAND and senior GNWT officials; and

2) COGLA's mandate is to review the benefits attached to their exploration agreements. GNWT believes there are more regional and local concerns which could be identified and articulated through action plans. These should be drawn from industry and reviewed by GNWT butthis is not occurring.

(The proponents noted there have been references to GNWT's Resource Development Policy and it's relationship with the COGLA approval process. Industry is concerned that the regulatory process, which is already very complete, not be further complicated.) It is not the intent of GNWT to complicate the regulatory process. The policy is far from being regulatory in nature. It is simply a position with no direct legal clout. There is nothing in it that allows it's implementation. It has been accepted by industry.

Esso (Arnett and Enson, Manager, employment and consultation office, Norman Wells) explained that the Norman Wells Project:

- is 65% completed in the field. 1984 will be a busy construction year but not at the 1983 level;
- many issues had to be address but few were frustating or disappointing, the vast majority were quickly resolved;
- northern employment associated with the project has been extensive and widespread, 4.6% of the labour force has been Northerners;
- northern businesses have extensively participated in the Project;
- employment and business expectations have not been fully realized. There is a need for early communication of opportunities and company policies and practices in order to minimize false expectations;
- dealings have been conducted directly with responsible government agencies in each mandated area;
- the existing regulatory system is complex but workable, a major redesign of the process will probably set industry back;
- government agencies are responding to their reponsibilities;
- the co-ordination function has served a very useful role for the Project. To be effective coordination functions must be established early in the Project's life-cycle e.g. with applications for regulatory approvals;

- extensive monitoring of project impacts is done by Esso and much of this data is publicly available;

- monitoring of social impacts is done largely through consultative mechanisms e.g. local councils, advisory committees, GNWT, etc. so that issues can be dealt with;

- Norman Wells is a one-industry town with no links to any traditional hunting or stopping place for native people. It has a predominantly "white" community but many native people participate in the rotational work force. Everyone in the community has been involved in a co-operative effort to minimize negative impacts. Norman Wells needs to obtain impact funding;

- the planning process needs to be started earlier;

- baseline studies indicate the communities are concerned that the traditional economy might no longer support them and they require better community services; and

- there is a capability to deal with issues but leadership and expertise can become overtaxed. Communities require resources to initiate community development plans.

(The panel suggested that Bob Bone's Norman Wells Monitoring Study appears to be a history-making process.) The study looks at the project as it progresses to determine what the impacts or benefits have been relative to those predicted. (Meldrum explained that the Bone Study is intended to gather ongoing information on certain economic indicators from a baseline before major activity.)

Brett Moore (DOE) responded to GNWT Submission YK4, noting that the report says that many of the opportunities presented by the Norman Wells Project have been lost. The project is very much a first-time event and many lessons have been learned. There will be less problems next time round. What is needed is lead time and resources.

Tilden (DOE) explained the Norman Wells research and monitoring working group:

- developed a research program for the project with the goals to assess environmental impacts, compare predicted impacts with actual impacts, evaluate the effectiveness of environmental controls and to assess residual impacts and to make resulting information widely available;

- six agencies are represented in the group, EPS, CWS, DFO, DIAND, GNWT Renewable Resources and EMR. Brian Wilson is the current Chairman and EPS provides a coordination function;

- have identified environmental impacts, concerns and issues, have consulted with Alaskan authorities in order to learn from their experiences;

- have had difficulties in finding resources with which to conduct the Group's work. Since no funds were available through NOGAP some study projects had to be dropped;

- the role of DIAND and NEB, in terms of regulatory environmental monitoring and the broad interest of DIAND's co-ordination offices in all types of monitoring, are recognized by the Group but they view this interest as lying primarily within the socio-economic realm; and,

- the Group is currently addressing community involvement in environmental monitoring.

Redshaw in clarifying the question of long-term monitoring, responded that the Project Co-ordinator for the Norman Wells Project has a responsibility lasting for the lifetime of the construction of the Project and, in view of the very long term monitoring required, has turned the responsibility for this task over to the DIAND Regional Office. The question of long-term monitoring is currently being reviewed with all agencies including GNWT and the Dene Nation.

Yellowknife, NWT

9 December 1983

Government Management

Pearce (IPL, Norman Wells Pipeline Project Manager-Submission YK-33a) explained that in the south IPL owns a 60 foot right-of-way (ROW) with four pipes moving crude. Worried by third party damage and possible environmental effects on other lines e.g. frost heave, slope protection, erosion, melting. Recognize need not take to much land for facilities. Don't know what Polar Gas plans are but would not force them off just to be miserable. ROW easement can be used as security against debt however loaners would need to know that no one could bust off the ROW. The Norman Wells EARP recommendations are not regulatory requirements, it is up to the government to implement them in a binding manner. Terms and conditions were laid on IPL by government. The pipeline is governed by NEB/COGLA. You need a regulatory group e.g. NEB to monitor compliance. The total Socio-Economic Action Plan involves ongoing discussions with NEB/DIAND/GNWT to resolve a number of key indicators of effects on communities the project may have. All river crossings are licenced with conditions the Navigable Waters Act and the NWT Water Board.

IPL monitors for compliance during, ongoing and post construction to determine effects. Corporations such as IPL are responsible for the corporate and social behaviour with or without government agencies looking over IPL's shoulder plus there is a personal commitment of the staff to do it right.

Erasmus (Special Advisor, Dene Nation-Submission YK-19) noted there have been many hearings and now the huge foreign owned corporations are back again. The Dene are not happy with the Norman Wells decision and the take over of Dene resources and lands. Norman Wells is not a model. The Dene are not against development but this is their homeland and want a real role in the decision process on development, a share of the revenues, to balance the economy of renewable and non-renewable resources and to control the pace of development. The Norman Wells EARP panel would not hear the political evidence of the Dene and then the NEB refused to accept the Norman Wells EARP transcripts as evidence. The results were predicted, there has been no coordination. The Dene tried to make the project work by including a broad-based monitoring agency. The Dene believe the project is not working and all benefits are going to others e.g. the disdain the NEB express when they recognized that IPL has not done its homework when

issuing OC-35 and granting extra time to them. This is the real reason for the delay in construction. The Dene see their role as a mail-order form of public participation, having responded to 22 reports with no means of cross examination. The Dene liken this to writing to Father Christmas. The Dene urge the panel to remain strong and effective to meet the needs of the people, to have authority to enforce its conclusions because there is no effective mechanism for protection, monitoring or compensation. The Dene are at the land claims table where there may be a good agreement or nothing; there will be a settling of accounts eventually.

Kakfwi (President, Dene Nation-Submission YK-23) examined the allocation of surface and sub-surface rights to land in the NWT. The Dene abandoned the term "land claims" in favour of "aboriginal rights negoitiations" because they are negotiating control of land and mechanisms from managing the land, its people and resources. The issue is who controls land use permits, the terms and conditions attached to the permit, and who ensures compliance. If the developers want to use Dene lands they should come to the Dene. There have been 54 applications for land use within Denendeh alone and the Dene have no resources or technical support so they responded to each application in a political manner reminding the federal government of the aboriginal claim negotiations. The Norman Wells experience has taught the Dene a lesson; we cannot trust the federal government nor trust them to protect Dene lands and resources. The COGLA Northern Benefits Committees are not working in favour of the Dene and the community committees are not in place because of jurisdictional rangling. The Dene look at the impacts of activities "under the table" and are overwhelmed by the files of the "transfer payments" made through PIP. The Dene will not receive a share of production revenues because the federal government has mortgaged the future. The Dene want participation in planning and implementation of resource management and until Dene institutions and agreements are in place the Dene will not approve development projects.

Barnaby (Vice President, Dene Nation-Submissions YK-20 & YK-40) noted many people still depend on the land for their living and for food. It is their way of life and they wish to protect the "bush life". Compensation is needed to allow a way of life to continue and cited the effects of development at "Grassy Narrows". There must be compensation for loss of the opportunity to harvest, for the loss of the collective right to harvest, of an aboriginal right to harvest. Compensation must be flexible enough to allow for a range of actions for as long as the need exists and the people affected have the right to define a situation where damage has occurred. The federal government has placed responsibility for compensation policies on industry. GNWT has a compensation policy but no authority to enforce it. No further rights to the land or resources should be granted (licences, permits or leases), until all aboriginal rights issues are resolved. There is no monitoring of the river at Norman Wells and communities are fearful for their fish harvest. The government has never been able to protect the environment. The affected people should be part of the environmental monitoring regime; the Dene should be part of any monitoring agency. (The proponents asked which special programs

have not yet received funding, why not and what problems have this created.) Monies were to provide for community development, to have time to assess possible damage and to have time to deal with the immense pressures. Funding took an enormous effort and only came at the end of the fiscal year so advanced time was lost. Received millions of dollars and was told to spend and account for them within a week. The Dene had to turn the $20 million impact funding into an equity fund to support Dene businesses. Have not received any training money. Its been an exercise in extreme frustration. The training dollars are just not trickling into GNWT and CEIC. The Dene support GNWT's request from start to finish. GNWT had a legitimate request. Infrastructure would not live up to the pressures. The funding went to the natives but even then it was too little too late. Compensation is not the absolute last resort. Projects should only be permitted when they are environmentally safe and where the Dene have control and a monitoring role.

Closing Statements

The proponents explained that the technologies to build a pipeline are currently available. The socio-economic impacts are manageable. A coordination office is useful and should be in operation by the time an application is presented. A greater priority should be given to a monitoring program for the Norman Wells Project. An improvement in the relationships between GNWT and the federal government, in areas of jurisdictional overlap, is needed.

Calgary, Alberta

12 December 1983

The proponents made a presentation which concentrated primarily on reviewing the past, current and projected future types of technology that are being considred and have been used in the Beaufort Sea region.

Dr. Gordon Jones (APOA-Submission CA-1) The Association's purpose is to help industry with basic research and provide a means to share technical information. There are seven standing committees at the moment dealing with environmental; oil spill; drilling and production; offshore and remote medicine; remote sensing; safety and public information.

In order to avoid duplication with ESRF, APOA has been working closely with the managers of the fund.

Nicholas (Bow Arctic Joint Venture-Submission CA-2) This presentation concerned the efforts in designing Mobile Arctic Islands (MAI). Their main design is to use a supertanker and cut it up so that it becomes a MAI. The main advantage of a MAI is that it does not require the huge quantities of sand and gravel as required by conventional drilling islands, and can be moved easily, thus causing little environmental damage.

Harker (Beaufort Sea Support Base Limited) This presentation dealt with the need for offshore supporting base and infrastructure to support production of oil out of the Beaufort Sea. Providing services from King Point was emphasized due to the deep port capabilities.

Ed Wolfe (Citizen and spokesman for the Native Canadian Petroleum Association) is concerned that native rights be settled before development and is also concerned as to Dome's limitation of liability.

Harold Millican, Barry Yates (Northern Pipeline Agency) gave an overview of the role of the agency, and what the one-window concept is. How legislative power was transferred to the NPA was also explained.

Ottawa, Ontario
14 December 1983

The Chairman opened the Ottawa session with a short opening statement.

Opening Statements

Scullion (DIAND) - reiterated the main elements regarding DIAND's previously stated position.

Lawler (DFO- Submission OT-11) indicated DFO is committed to "cooperative resource planning" as a means of incorporating departmental concerns. The aim is to protect marine environmental quality. DFO has concluded that demonstration projects should be shown to be safe. A list was given of what the conditions should be. In brief: Lancaster Sound planning principles should be adopted; a regional planning process should be initiated; aboriginal hunting and fishing rights must be respected; all specific projects should be subject to environmental assessment and review; outstanding deficiencies re risks to fish and marine mammals should be addressed through research and monitoring; research and monitoring should be coordinated between government and industry; research requirements should be stipulated as part of conditions on projects; and, results from research and monitoring must be incorporated into planning, construction, operating and decision-making processes.

Brooks (BSA - Submission OT-17) noted the position of BSA has already been stated in Inuvik. The ability and capacity of government to manage and to regulate activities is a concern. Two case studies will be presented, Management of the Dempster corridor by L. Staples, and Stokes Point by P. Burnet. Two other studies will be presented which look at ways of improving how to deal with problems, by G. Beakhust and G. Milne. BSA is in a pessimistic mood, but hopes this session will challenge their pessimism.

Lee (Proponents - Submission OT-8) presented a historical overview, showing that much has been learned in the past 20 years. A lot of baseline material is now available to industry on how to protect the permafrost, new techologies, artifical islands, ice mangement, oil spills, research for ships, and on the social and economic fabric. There

is ongoing research in oil spills, compensation, training, Development Impact Zone (DIZ) groups. Government has initiated the Northern Oil and Gas Action Plan (NOGAP), employment and training programs, DIZ group issues, drug and alcohol studies, community consultations, Land Use Planning (LUP), and native land claims, the proponents recommend that:

1) A single department be responsible for Beaufort Development for consistant implementation of northern energy policies and for taking major decisions;

2) For Beaufort Sea coordination, a senior federal coordinator, (DG or higher) should be appointed and should be located in Inuvik;

3) Support must be given to local communities;

4) Land claims should be settled as early as possible;

5) Land Use Planning must be developed, for the proponents believe that the guiding principle for LUP is one that maximizes the area where multiple land use can occur while ensuring that attention is payed to native needs; and

6) Research must continue.

(Brooks (BSA) asked what the proponents meant by a single government office, when they are not advocating a "single window.") Industry wants only one boss. There could be several agenices developing policies, but only one should be giving the directions.

Sheehy (Canadian Nature Federation) urged that the tanker route be ruled out for oil spill reasons and because of the impact of traffic on the Northwest Passage. This does not mean that they support the pipeline, more research is needed on this mode. The CNF is concerned over the northern Yukon; they do not want to see a deep draft port there. They approve of DIAND's conservation plans and policies. The CNF recommend that another review be held when industry's final plans come out, and that there should be follow-up EARP reviews every 5 years throughout the life of the project.

Bobitt (LIA - Submission OT-12) made a presentation on wind direction in the northern Labrador Sea. The main point of the paper is that oil spilled in the Labrador Sea would be blown onto the Labrador shore. Raw data that could demonstrate conclusively that this would happen is held by Petro-Canada and will only be released after these hearings.

Baird (Government of Newfoundland and Labrador - Submission OT-10) noted the people of Nain are concerned about tanker traffic. Impacts South of 60° must also be examined. Tankers, it is believed, would come closer than the stated 300 km range, in order to receive protection from the ice pack. This would endanger seals.

Canadian Coast Guard (CCG) holds no particular position on the merit of the project, they are neither pro nor con. They are interested though in knowing the timing of the project in order for the department to gear up for its responsibilities. There is a need to keep up with industry due to quantum changes in technology. Regulatory safety for the Arctic must continue with the research and development program. There is a need also to clarify jurisdictional interfaces, for example, with COGLA. An Arctic Control Authority would be set up when development gets underway. The CCG-Northern Region is really a precursor of the northern control authority. (The proponents asked about the status of the CCG Polar Class 8 icebreaker.) The proposal for the ice breaker has gone to the ship yards for funded, paid by government, bids. There could be Class A estimates by next fall. The CCG will not commit itself to the icebreaker until there is movement of hydrocarbons. (The panel queried the length of lead time.) It takes 8-9 years to get a ship built, which is why CCG is working on the bidding now. Construction time in the yard takes 54 months, and this is followed by trials. (The panel asked why it takes longer to build an icebreaker than it does a tanker). An icebreaker provides many more roles than does a tanker. (The panel queried who takes full responsibility for oil spills, CCG or DIAND.) CCG can only deal with spills from ships, not from drilling platforms. Responsibility goes to the department that best understands the technologies involved. Equipment is located in Tuk and St. John's, Newfoundland and could be augmented as necessary. DIAND has no clean-up equipment but could use CCG as a resource. (MacPherson (DOE) asked if the control authority exists now.) It does, and is shared by CCG and DOE. (Coolican (ITC) asked if CCG could respond to questions submitted in their brief at Resolute.) CCG will respond in writing to the Resolute brief. CCG has and will continue to train Inuit on their ships. Students come on board to train and it is hoped that some will become CCG officers. A few brief reports have been done on this training. (Rowell (LIA) wondered whether there would be changes made to the various Acts) The Canada Shipping Act will be changed as well as the AWPPA.

Energy, Mines and Resources made themselves available to answer questions. (The panel asked what was the state of knowledge on ice-scour relative to sub-sea pipelines.) There are two techniques which are used mainly, the first method of determining ice scour is to do repetetive mapping, and then compare maps, the second is to study ice keel data.

Dr. Kretch (Submission OT-14) stressed that land claims need to be resolved so that native people can regulate development. Natives should be involved in research relating to their interests and should be supported in achieving long term development goals.

Cinq-Mars and McGee (National Museum of Man) outlined the variety of historic and prehistoric sites in the north Yukon and Mackenzie Delta. Development activities could destroy these sites; visible sites could be picked over as a result of the increased human presence in the area with the labour force and those sites which aren't visible could be inadvertently destroyed out of ignorance.

Ottawa, Ontario
15 December 1983

Government Management

Staples (BSA - Submission OT-3) noted the Dempster Highway is the only road with access to the Beaufort. Built between 1958 and 1979 the highway now creates the need for proper environmental management. In August 1983, the YTG came out with a plan which stresses the need to mitigate impacts. There is a jurisdictional problem as to who should manage the corridor, for though it is federal, YTG should really be the managers. The planning system in its present form ignores many of the problems e.g. Porcupine Caribou, spur roads, and hunting. (Loken (DIAND) noted that DIAND and YTG have yet to come to an agreement on the YTG's Dempster plan. Land use planning (LUP) could include how to deal with the Dempster corridor and the caribou).

Burnet (BSA - Submission OT-9) explained there has always been conflict between native people, territorial and federal governments and industry concerning development. The North Slope Project Review Group tried to answer many difficult questions which can only be answered by making political judgements on the relative importance of such competing values as development, conservation, and native claims. There is a lack of policy from DIAND. Though the report "Beaufort Sea Hydrocarbon Exploration - A Federal Perspective" gives objectives and guidelines, they are too general. There has to be proper direction and policy to minimize conflict.

Beakhust (BSA - Submission OT-6) noted that ineffective regulation is worse than none at all, the regulatory regime has not changed in the last 10 years, greater participation in drafting regulations is needed, penalties for not abiding by regulations are too little, and environmental protection should be acceptable to all parties. (Loken noted changes have occured in the last 10 years, for example, LUP and listening to native input has become a major factor).

Milne (BSA - Submission OT-19) indicated there is a challenge to the communities to live up to development. (Lee (pronponent) asked what environmental incidents have occured to lead to distrust). Examples include a truck leaking oil at Norman Wells and vehicles going through the tundra at the wrong times. (Richardson (Panel Technical Expert) asked about having a core of inspectors working closely with industry). This is

comparable to the system in the European Economic Community countries. This could not be transposed to the Canadian situation; would have to come up with a system specific to Canada.

McNamee (National and Provincial Parks Association-Submission OT-18) recommended that land use planning be completed before development begins. There should be no production until native claims are settled and regulatory management structures are in place. There should be no development within the proposed Northern Yukon National Wilderness Park. The tanker mode should not go ahead unless the highest safety standards are met.

Waddell (DIAND - Submission OT-16) explained that DIAND intends to maintain close liaison with territorial governments, industry and native people concerning the development and implementation of a compensation policy. DIAND supports the initiative of the GNWT to develope a compensation policy. (Coolican (ITC) asked about consulting with native people in developing a compensation policy). Consultations with native groups will occur in the near future. (Anderson (Nain) asked what if an accident occurs south of 60°, yet affects north of 60°). The Arctic Waters Pollution Prevention Act and Canada Shipping Act would cover an accident, however, there are still jurisdictional problems to be resolved between these acts. (Anderson requested funding for Labrador Inuit communities not just for LIA).

Nesbitt (BRIA - Submission OT-5) noted there is a lack of research on northern communities and on the subject of underwater sound. There should be management of northern mammal populations. The job future for the young people of the Baffin Region is questionable.

MacPherson (DOE - Submission OT-7) recommended modification and integration of the project management process. This should include a single authority, a regional land use plan, the proponents should submit concept plans, a formal review process should take place with emphasis on strategic issues rather than technical details, governments should define concisely their roles the federal government should complete its review of environmental management of the North, a LUP advisory committee with broad representation should be initiated, the federal government should designate an authority to conduct coordinated requirement settings and complete a Beaufort Sea integrated management plan, research of environmental and technological issues should continue, and public hearings should be held to ensure that all concerned citizens and organizations are heard.

Roots (DOE) explained that knowledge is essential to make proper judgements for development. DOE will undertake research to accomplish this. Financial restraints have been a hindrance to northern research. There is a great deal of raw data on the north which needs to be analysed. (The panel asked if there would be any problems, in DOE's eyes, of having the GNWT as managers). No problem.

(The panel inquired about how many national parks are planned for the Beaufort area.) Rennie (DOE) explained there are 10 or 11 planned for the entire North of which 5 are in the Beaufort Region. They take many years to establish, due to dealings in land claims, the territorial governments, and DIAND. LUP will speed up matters. Three parks might be established by 1985. (Tull (BSA) asked how long it would take to accomplish a conservation system). Hopefully this will be in place by 1990. A workshop was held recently in Whitehorse to discuss a conservation strategy.

Verron, Campbell, Ewing, Lawler, and Josephine (DFO) explained that a suitable demonstration project would be one that is near shore, where ice scour occurance is known, with production through a small diameter pipeline. (The proponents asked why DFO does not accept many of the things put forward by the proponents). Because they do not agree witn the criteria given, for example on wave and ice conditions.

Rowell (LIA) asked what forum is left for the LIA to attend. No department wants to take on the responsibility for the Inuit of Labrador. This is the difficulty in being located mostly south of 60°, yet affected by events occuring north of 60°. The panel should request Cabinet to do something about this quandry. (The panel explained they are aware of this problem and will be identifying it in their report).

Coolican and Suluk (ITC) reiterated their basic concern about wildlife management and the role of Inuit in its management.

Rees (Submission OT-28) outlined some of the problems with environmental impact assessments:

1) Industry spends too much time on paperwork and does not develop a good environmental framework. Government gets lost in reviewing all the paper;

2) Perfect knowledge is impossible;

3) The sweeping guidelines submitted by the panel make it impossible for the proponent. No one is left satisfied.

4) The mandate of the panel is too narrow; and

5) Government should come out with what their policy for development is for the next 18 years.

LUP cannot proceed in a vacuum; socio-economic conditions must be included. LUP is not synonymous with regional planning and though it will be part of larger regional development, it must be done from a Beaufort Community, not Ottawa. LUP is a political process. (Brooks (BSA) asked if allowing exploratory drilling means it is an approval in principle for development to go ahead). No, but it can lead to it if exploration goes successfully.

Carley (Submission OT-29) explained the need for monitoring. A report will be submitted to DIAND and GNWT in January. The main recommendations are that: monitoring should be tied into a policy level; the role of committees should be well defined; the monitoring authority should have enough authority to do what it must; individuals and committees involved in monitoring should have sufficient financial and manpower resources; the monitoring program should be an open process; monitored project-related impacts must eventually be related to procedures for mitigation; and, it should be made clear at the onset of monitoring that governmental jurisdictions will be interrelated during monitoring.

Ottawa, Ontario

16 December 1983

Government Management

Stone (DIAND - Submissions OT-30 and IN-28) gave an update on the Beaufort Sea Environmental Monitoring Program explained the methodology of how it works. You do not have to study the end linkage if you concentrate on the intermediary ones.

Parkes (DIAND) (OT-31) explained how the Environmental Studies Revolving Fund (ESRF) works, with DIAND's role north of 60° and COGLA's south of 60°. 138 research proposals have been received, of which 133 were from the private sector. (The panel asked who sits on the Northern Board.) These are mostly technical experts rather than representatives of a region. (The panel asked how are studies made available to the public.) Publications are made available to the public through libraries and data bases. (Tull (BSA) expressed concern at how long it has taken to get the ESRF off the ground and into operation). It has in fact been fast, since it was only in August 1983 that ESRF got it's financial base, and by November had received the submissions. (Coolican (ITC) asked what percentage of the fund goes towards administration.) 25% at the moment. (Coolican inquired if the forms will be made easier to understand.) These will be looked at again, but there will be help for people who are filling them in from Whitehorse and Yellowknife.

Faulkner, Wetherup, Glass, Cochrane, Watson, Hucker (DIAND) gave a brief overview of DIAND's mandate and what has occurred in the last two decades. Land claims are ongoing. These will bring about significant changes in the north. Consultation: Beaufort Sea DIZ society will be recognized by both territorial governments and the federal government as the contact for government-community consultations. Norman Wells: Much has been said about it. It is a model and should be seen as a success story. It is a learning experience for future Beaufort Sea management. It shows good working relationships between federal and territorial governments. (Lee (proponent) noted there are socio-economic and environmental data gaps for the north. Will the Northern Oil and Gas Action Plan (NOGAP) be a good mechanism to resolve these.) NOGAP has been well received and was recently given recognition in the speech from the throne. (Brooks (BSA) asked what was meant in Inuvik when DIAND said "Conflicts will be inevitable ...".) It is DIAND's policy not to compromise the environment. There will be site-specific changes in some areas, but once a project has finished, the land can be

rehabilitated. Change must be contained and managed. (Brooks asked the Departments view on the Horte report.) There is no final decision yet. Do not want duplication between NEB and EARP. Land claim settlements will change the public review process. (Brooks asked about government's commitment to phased development.) The National Energy Program and DIAND policy have both stated that caution should be the watch-word for northern development. Territorial governments also have the same policy. Small developments are favoured. If a project gets out of control it should be in a position to be halted or modified. (Brooks questioned if there will be a second EARP review once a specific proposal has been filed.) There could be, but no commitment has been made to what process should be followed. (Edmunds (LIA) queried the LIA jurisdictional problem.) The NAP has minimal responsibilities for the Labrador Inuit, but the Department has a responsibility for native people. LIA can take benefit of any federal legislation for compensation. (Richardson (Panel Technical Expert) asked about the single window concept.) The Northern Pipeline Agency is being looked at. Do not like to invest all the powers in one place. It's better to leave the expertise where it exists. (The panel wondered if DIZ members would be paid). It is up to them to decide that. DIAND would make funds available if requested. (Gilmore (GNWT) noted that DIZ members are paid. The panel asked if Beaufort Sea management could be done similar to that used in the Shetland Islands.) The levels of government in Britain are different than here, but a community harbour management authority is something we favour. (The panel inquired if areas of national significance would be protected before development goes ahead.) There are many sites and all are protected. A Conservation Task Force has been established to identify and protect these sites.

Taschereau and Ruel (COGLA) indicated that the environment cannot be traded off; it is non-negotiable. Mr. Chrétien is addressing the issue of the Labrador Inuit and it will hopefully be resolved as soon as possible. COGLA inspectors are fully trained in drilling and blow-out matters. They go through 2-3 years of formal training. Many have background experience working for industry. Anything that is ship oriented is the Canadian Coast Guard's (CCG) responsibility. (The panel asked if there are contingency plans which could be mobilized immediately to deal with a blow-out in the Mackenzie.) First the company involved would take action, if more help was needed, companies would pull together, and thirdly government would step in. (Tull (BSA) indicated priority should be given to the conservation of heritage areas.) A high value has been placed on this. Some areas have yet to be identified, but NOGAP will help in the funding for this identification. (Rees asked what force LUP will have in law.) LUP would only be an advisory plan. Once accepted, the territorial government involved would take on responsibility for the plan. (Richardson (Panel Technical Expert) asked how industry is involved in the LUP process.) They will have to be precise as to what there needs are. They will have a role in the process.

Closing Statements

Munro (DIAND - Submission OT-33) explained the importance of these hearings to DIAND. The reason for the 1980 decision to refer this project to EARP was to permit early planning. The Federal Government is establishing mechanisms to manage Beaufort development. Legitimate development must not be tied up in red tape. The Norman Wells project is a good example to learn from. A Beaufort Sea Coordinator's Office is needed and supported. The Northern Benefits Committee should serve as a link with Beaufort Sea DIZ. Close relationships should be maintained with the territorial governments.

Nerysoo (GNWT - Submission OT-32) reiterated what Mr. Munro said about DIZ, a coordinator's office and the Northern Benefits Committee. Listed eight recommendations to the Panel:

1) Tanker transportation of oil is presently unacceptable;

2) GNWT supports phased development;

3) Opposed to a proliferation of shorebases on the Beaufort Coast;

4) EARP hearings are costly and may be managed more effectively through a joint federal - GNWT review process;

5) The monitoring framework must include Beaufort residents and native organizations as well as industry and both levels of government;

6) The panel should recognize the importance of the renewable resource economy in addition to hydrocarbon development;

7) Early initiation of LUP is essential; and

8) Compensation is not an alternative to good project management.

Murphy (YTG) reiterated a Yukon port is acceptable to YTG, for multi-use purposes and as an emergency centre. Development will have an impact on the Dempster Highway, business and training and monitoring. Industry should let the YTG know what infrastructure will be needed. Abandonment plans should be provided by industry as well as how they will consult with northerners. YTG wants to be a participant in everything including equitable revenue sharing.

Nesbitt (BRIA) stressed that communities need greater control of environmental matters and so recommended against approval of Beaufort development at this time.

Detlor (Town of Inuvik) explained that Inuvik will be the first place to feel the effect of development. One of the benefits of these hearings is that it has brought forward some of the problems that communities must face and can now try to resolve.

Lawler (DFO) noted many documents have been provided which outline DFO's position.

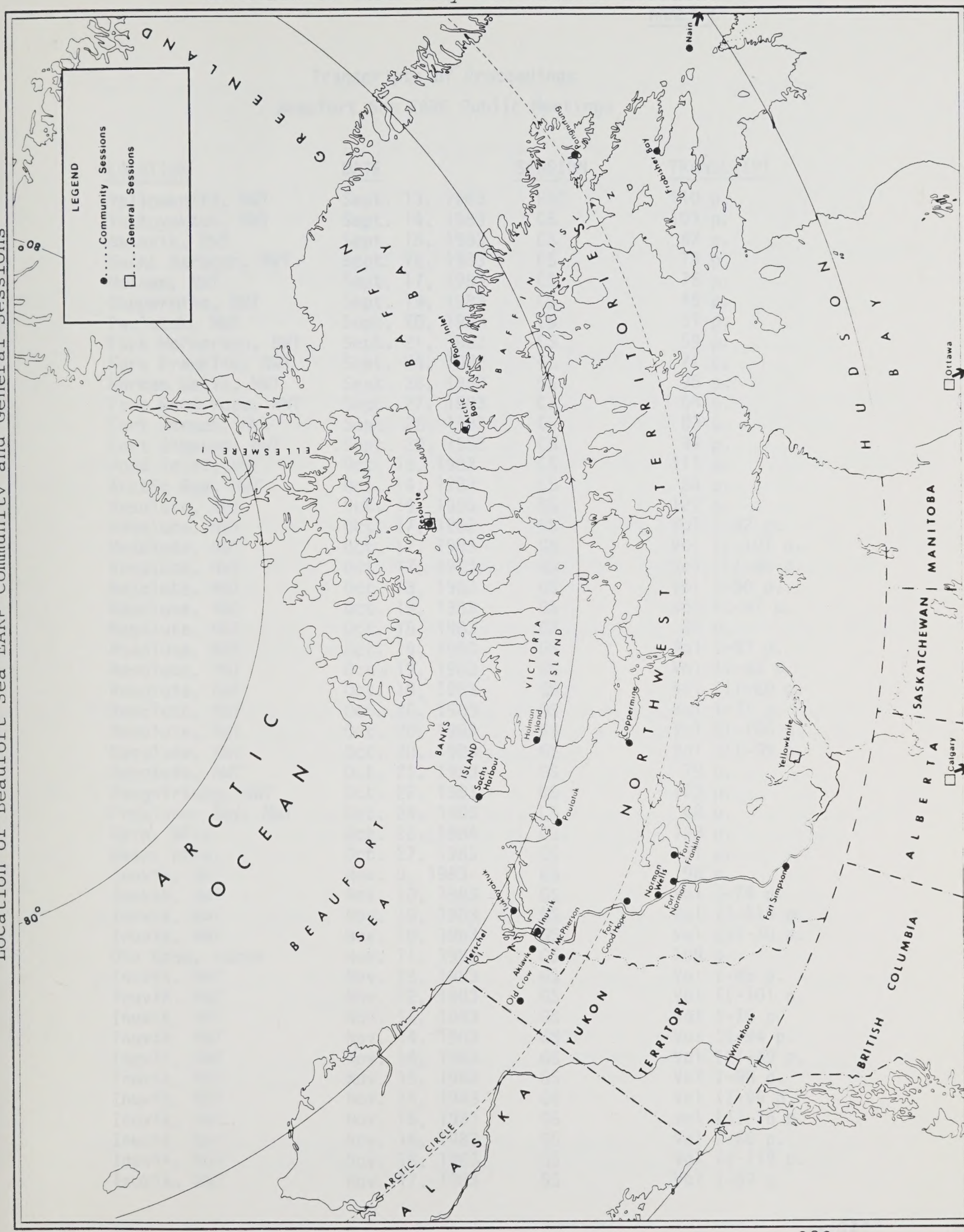
MacPherson (DOE) outlined the six key scientific issues DOE identified several years ago. These include oil spills, chemical spills, atmospheric and ice regimes, research and monitoring, cumulative impacts and conservation of special areas. DOE is closer to answering all of these issues and the hearings have improved understanding of these issues. DOE stands behind the need for LUP, a conservation strategy and an environmental management strategy.

Todd (Proponents - Submission OT-34) indicated industry looks forward to working with government on land use planning. Do not see the need to freeze activity until the planning process is complete. LUP should be a dynamic, ongoing process that facilitates issue identification and conflict resolution. Baseline information, required by the government to manage the natural resources, is primarily the responsibility of the government. Strongly endorse NOGAP and strongly recommend that government appropriate the necessary funds to enable it to proceed. Endorse the idea of a project coordinator in Inuvik which would facilitate effective implementation of government policy.

The panel chairman closed the hearings, noting that EARP is not perfect, but much has been learned from these hearings. The panel will recommend changes to EARP. Dr. Tener thanked all the participants and panel staff.

Schedule of Community and General Sessions

Location of Community and General Sessions



ANNEX C

Transcripts of Proceedings
Beaufort Sea EARP Public Meetings

LOCATION	DATE	SESSION	TRANSCRIPT
Yellowknife, NWT	Sept. 13, 1983	PSC	110 p.
Tuktoyaktuk, NWT	Sept. 14, 1983	CS	103 p.
Aklavik, NWT	Sept. 15, 1983	CS	87 p.
Sachs Harbour, NWT	Sept. 16, 1983	CS	73 p.
Holman, NWT	Sept. 17, 1983	CS	75 p.
Coppermine, NWT	Sept. 19, 1983	CS	45 p.
Paulatuk, NWT	Sept. 20, 1983	CS	37 p.
Fort McPherson, NWT	Sept. 21, 1983	CS	59 p.
Fort Franklin, NWT	Sept. 24, 1983	CS	71 p.
Norman Wells, NWT	Sept. 26, 1983	CS	95 p.
Fort Good Hope, NWT	Sept. 27, 1983	CS	64 p.
Fort Norman, NWT	Sept. 28, 1983	CS	83 p.
Fort Simpson, NWT	Sept. 29, 1983	CS	99 p.
Pond Inlet, NWT	Oct. 13, 1983	CS	111 p.
Arctic Bay, NWT	Oct. 14, 1983	CS	84 p.
Resolute, NWT	Oct. 15, 1983	GS	127 p.
Resolute, NWT	Oct. 17, 1983	GS	Vol I-82 p.
Resolute, NWT	Oct. 17, 1983	GS	Vol II-101 p.
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Inuvik, NWT	Nov. 12, 1983	GS	Vol I-85 p.
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Inuvik, NWT	Nov. 24, 1983	GS	Vol III-28 p.
Whitehorse, Yukon	Dec. 1, 1983	GS	Vol I-87 p.
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Whitehorse, Yukon	Dec. 2, 1983	GS	Vol I-93 p.
Whitehorse, Yukon	Dec. 2, 1983	GS	Vol II-96 p.
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Yellowknife, NWT	Dec. 8, 1983	GS	Vol II-123 p.
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Yellowknife, NWT	Dec. 9, 1983	GS	102 p.
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Ottawa-Hull	Dec. 15, 1983	GS	Vol I-119 p.
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Ottawa-Hull	Dec. 15, 1983	GS	Vol III-80 p.
Ottawa-Hull	Dec. 16, 1983	GS	Vol I-104 p.
Ottawa-Hull	Dec. 16, 1983	GS	Vol II-93 p.

PSC - Pre-Session Conference
CS - Community Session
GS - General Session

WRITTEN SUBMISSIONS TO THE BEAUFORT SEA EARP PANEL

BE-1 Panel Briefing Book, including submissions by their technical specialists:

- Overall view of EIS Oceanography by Paul Griesman.
- Review of EIS Concerning Transportation of Oil from the Beaufort Sea to Eastern Canadian Markets by Arctic Tanker by Warren Bonn.
- A critical Evaluation of Proponent's Socio-Economic Impact Assessment by Diane Erickson.
- Critique of EIS by Don Mackay.
- Marine Biological Impacts by T.R. Parsons.
- Land Use Planning, Regional Planning, and Environmental Assessment: A Preliminary Review of Issues by N.A. Richardson Consulting.
- Geotechnical Aspects of Pipeline Operations by M.W. Smith Geosciences Limited.
- A Critical Risk Analysis Evaluation by Ray Lemberg.
- A review of the Beaufort Sea Hydrocarbon Production Proposal EIS by Val Walsh.
- A Critical Appraisal of the Economic Aspects of the Proposed Beaufort Sea Development.

BE-2 The Inter-Relationships of the Beaufort Sea Amundson Gulf Ecosystem and Possible Impacts of Development from the Perspective of Holman Island - by Robert Kuptuna - April 1983.

BE-3 Dene Socio-Economic Planning in the Mackenzie Delta: an Overview of Economic and Social Conditions by E.T. Jackson and L.D. Trudeau - July 1983.

BE-4 Presentation of the Hamlet of Tuktoyaktuk. September 14, 1983.

BE-5 Government of the Northwest Territories Executive Council Presentation, Aklavik, September 15, 1983.

BE-6 A Submission to the EARP Hearings by Beaufort Hunters and Trappers Assocations.

BE-7 The Implications of the Physical Environment Offshore Labrador on Arctic Tanker Traffic. Labrador Inuit Association, October 1983.

BE-8 Beaufort Development by Sachs Harbour Trappers Association, 1983.

BE-9 Paulatuk's Report by Gilbert Ruben.

BE-10 BEARP Presentation by K. Menicoche, Fort Simpson, NWT, September 29, 1983.

BE-11 Oil Spill Risk Assessment - Final Report, September 1983. F.G. Bercha and Associates Limited.

BE-12 Field Investigation of Tracks Left by Ice Breaking Vessels. B.W. Danielewicz, E. Pessah, S. Cornett. April 1983.

BE-13 Comments on Vol. 4, EIS by J.M. Terhune. September 25, 1983.
(RB-12)

BE-14 NWT - Canada. Resource Management and Revenue sharing Agreement A Proposal for Settlement. June 1983.

BE-15 Department of Renewable Resources - Strategic Plan, GNWT.

BE-16 Renewable Resource Compensation Policy, GNWT.

BE-17 Fort Simpson Dene Band presentation given by Chief Jim Antoine September 29, 1983.

BE-18 EARP presentation given by Don Antoine, September 29, 1983.

BE-19 Submission by Fort Good Hope Dene Community Council, September 27, 1983.

BE-20 Initial Statement on Compensation Fort Good Hope Dene Community Council, September 27, 1983.

BE-21 Fort Good Hope HTA Presentation, September 27, 1983.

BE-22 Recommendations for improvements to an oil spill contingency plan (F.G.H. September 27, 1983).

BE-23 Response by ERCL to the above recommendations (F.G.H. September 27, 1983).

BE-24 Presentation made by Miss Susan Hailey, Fort Norman, September 28, 1983.

BE-25 Presentation, Mrs. Phyllis Curton, Norman Wells, September 26, 1983.

BE-26 Presentation, William Byrnes, Norman Wells, September 26, 1983.

BE-27 Presentation, Mayor Kathy Bjornson, Norman Wells, September 26, 1983.

BE-28 Presentation, Violet Doolittle, Norman Wells, September 26, 1983.

BE-29 (RB-11) Comments on "Oil Spill Risk Assessment" dated September 1983 by the Proponents. R. Lemberg.

BE-30 (RB-8) Archaeological Concerns. National Museum of Man, October 1983.

BE-31 (RB-5) Analysis of Proponents Estimate of the Chance of Oil Spills Resulting from Oil Production in the Beaufort Sea. Part I - Tanker Transportation Prepared for Environment Canada, October 8, 1983.

BE-32 What's in it for us? Presentation by the Development Review Committee, Pond Inlet, October 1983.

BE-33 (RB-2) Presentation by Inuit Tapirisat of Canada, October 1983.

BE-34 (RB-1) DIAND Opening Statement - Resolute, October 1983.

BE-35 (RB-3) Presentation by Labrador Inuit Association, October 1983.

BE-36 Recommendations for Improvement of the Norman Wells Oil Spill Contingency Plan and a Spill Compensation and Monitoring Agreement - Draft. Prepared for Dene Community Council, Fort Good Hope. Hatfield Consultants Limited, March 1983.

BE-37 (RB-9) Effects of Vessel Traffic on Whales in Lancaster Sound, R. Hurst.

BE-38 (RB-4) Submission by BRIA to BEARP, October 3, 1983. Also October 26 corrections

BE-39 (RB-13) Advances in Arctic Icebreaker Design, J.T. Stubbs, K.K. Tue-Fee, A.J. Keinsnon, Dome Petroleum Limited, September 1983.

BE-40 "Are you ready for Development?" Development Review Committee (Notes for listening to the local radio station).

BE-41 (RB-5) Oil Spill Risk Assessment. Submitted to Resolute Hearings, October 1983. Environment Canada.

BE-42 Marine Bird Distribution in Lancaster Sound. R.W. Prach, CWS, October 1983.

BE-43 Curriculum vitae of Wayne S. Duval, Garth Harrison, Archie Churcher, David F. Dicking, Ben W. Danielewicz, Ralph A. Davis, John A. Ward, Neal A. Brown, William M. Pistruzak, Kenn Harper, Rory Cattanach.

BE-44 Curriculum vitae of Judith Bobbitt.

BE-45 Presentation at Pond Inlet by Dorothee Komangapik, October 13, 1983.

BE-46 Compuheat Canada - Thermographic Television Cameras Application Sheet.

BE-47 (RB-7) Department of Fisheries and Oceans - Opening Statement at Resolute Public Session.

BE-48 Community Profile Workbook - Eastern Arctic - Information Documentation Prepared for Panel Secretariat by E.M. MacDonald.

BE-49 Resume - Abe Okpik.

BE-50 Presentation by the Hamlet Council and Development Review Committee of Arctic Bay.

BE-51 (RB-10) Land Use Planning in the Lancaster Sound Presentation by Herman J. Dirsho October 20, 1983.

BE-52 Submission by the community of Rigolet, October 1983.

BE-53 Submission by Paul Marshall, Pangirtung, October 1983.

BE-54 Presentation by Garfield Warren. Nain, Labrador, October 26-27, 1983.

BE-55 Response to significant issues raised by W. Bonn. Dome Petroleum Limited. September 1983.

BE-56 Presentation by D.J. MacWatt, Beaufort Environmental Support Service Limited. October 7, 1983.

BE-57 Presentation by Kenn Harper, Consultant (DOME) re: Parry Channel communities.

BE-58 Questions re: noise raised at Resolute Bay General Sessions. October 1983.

BE-59 Comments on "Oil Spill Risk Assessment" dated September 1983 by the Proponents. (Amended Version) October 28, 1983. (IN-31)

BE-60 The Quality of the EIS and the need for further hearings. Presentation to BEARP. Inuvik, November 1983. By C. Eric Tull. (IN-6)

BE-61 Protection for the MacKenzie Delta. November 1983. By C. Eric Tull. (IN-7)

BE-62 Government of the Yukon Presentation. Inuvik. November 9, 1983. Presented by C.W. Pearson. (IN-1)

BE-63 Submission by J. Edward Chamberlin, Beaufort Sea Alliance. Inuvik, November 19, 1983. (IN-2)

BE-64 Beaufort Sea Alliance - Opening Statement. Inuvik. (IN-3)

BE-65 Dome Oil Spill Trajectory Model. Stephen Potter, Dome Petroleum. January 1983. (IN-4)

BE-66 Corrections to Oil Spill Chapter of Response to Environmental and Technical Issues Document. Dome Petroleum, November 1983. (IN-5)

BE-67 DFO Opening Statement. Inuvik, November 9, 1983. (IN-15)

BE-68 Norman Wells Expansion Project - Northern Employment Report. Esso Resources Canada Limited. October 1983.

BE-69 DOE Opening Statement. Environment Canada's Proposals Toward Panel Recommendations on Beaufort Sea Hydrocarbon Production. Novermber 1983.

BE-70 Presentation of the Government Contingency Plan for Major Non-Ship Pollution Incidents in the Arctic Seas. DIAND. November 1983.

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BE-71 The Wonders and Pitfalls of Land Use Planning in the Northern Regions of Canada. Yvon Dubé. March 8, 1983.

BE-72 Yukon North Slope Project Review Group. Recommendations to the Minister of DIAND. October 17, 1983.

BE-73 Contingency Planning and the Control of Contaminants in the Northwest Territories. Mel Smith. September 1983. (IN-10)

BE-74 Beaufort Environmental Support Services Ltd.. Submission to the Panel. October 7, 1983. (IN-16)

BE-75 Environment Canada's Position Statement on the Beaufort Sea Hydrocarbon Production Proposal. November 1983. (IN-17)

BE-76 Proponents Opening Statement. Inuvik. (IN-18)

BE-77 GNWT, Department of Renewable Resources - Opening Statement. Jim Bourk. Inuvik. (IN-20)

BE-78 Inuvik and District Chamber of Commerce - Opening Statement. Inuvik. November 9, 1983. (IN-22)

BE-79 Beaufort-MacKenzie Delta Development Impact Zone Group. Opening Statement. November 9, 1983. (IN-23)

BE-80 Some Aspects of Beaufort Hydrocarbon Production and the Town of Inuvik. Tom Detlor. November 1983. (IN-24)

BE-81 Analysis of Proponents' Estimate of the Chance of Oil Spills Resulting from Oil Production in the Beaufort Sea. Part 2 - Pipeline vs. Tanker Transportation. Prepared for Environment Canada. November 1983. (IN-25)

BE-82 Management Strategies for Terrestrial Oil Spills and Disposal of Sump Fluids. M. Barnett. DIAND. (IN-29)

BE-83 DOE Position on Oil Spills. K.M. Meikle. (IN-32)

BE-84 Brief to Beaufort Sea Panel on B105 Project. November 3, 1983. (IN-33)

BE-85 Responsibility for Migratory Birds. T.W. Barry. CWS. November 1983. (IN-34)

BE-86 Special Areas of Interest - CWS. (IN-35)

BE-87 Issue Statement - Ice Regime Impacts. Atmospheric Environment Service. (IN-36)

BE-88 Clarification of Table 4.7.1. of Oil Spill Risk Assessment. (IN-39)

BE-89 Clarification of Development Drilling Oil Spill Risks with and without the Ixtoc Exploration Blowout. A.C. Churcher. (IN-38)

BE-90 Simplified Summary of Oil Spill Risk Assessments. R. Lemberg. November 12, 1983. (IN-40)

BE-91 GNWT. Renewable Resource Compensation. Directive. (IN-41)

BE-92 GNWT. Renewable Resource Compensation. Policy. (IN-42)

BE-93 Oil Spill Response Capability. D. MacKay. November 14, 1983. (IN-43)

BE-94 Northern Business and Beaufort Development. John F. Knox, Beau-Tuk Marine Services Ltd.. (IN-46)

BE-95 Submission by the Executive of the Board of Directors of the Beaufort - MacKenzie Delta Development Impact Zone (DIZ) Group. (IN-48)

BE-96 Presentation by William Nasogaluak, President. Canadian Reindeer Ltd.. (IN-49)

BE-97 Submission by Kathie Nukon, Yukon Legislative Member for Old Crow.

BE-98 Submission by Grafton Njootli. Old Crow.

BE-99 GNWT Submission to BEARP. An Overview of Psycho-social Impacts of Resource Development in the NWT. Blair Dunbar. September 1983.

BE-100 GNWT Submission to BEARP. Department of Economic Development and Tourism. September 1983.

BE-101 Curriculum Vitae of Participants for the Proponents.

BE-102 Dome. Further Clarification of Discussion Paper No. 6. November 15, 1983.

BE-103 Presentation by H. Beaubier at Inuvik.

BE-104 Management of Wildlife in the Norwest Territories. Paul Gray (GNWT) (IN-8).

BE-105 The Potential Effects of Increased Industrial Activity on Polar Bears in the Beaufort Sea. Paul Latour (GNWT) (IN-9).

BE-106 Evaluation Responses of Caribou and other Ungulates to Industrial Activities and the Effects of those Activities. Anne Gunn. (GNWT) (IN-11).

BE-107 Bear/Human Conflicts. Gordon Stenhouse (GNWT)(IN-12).

BE-108 The Changes in Harvest Patters Resulting from Increased Industrial Development. Ron Graf. (GNWT)(IN-13).

BE-109 Department of Local Government, GNWT. Mike Moore, Charles McGee.

BE-110 Submission of Northern Canada Power Commission to the Beaufort Sea Environmental Assessment Panel. Whitehorse, December 3, 1983

BE-111 The Protection of Archaeological Sites in the Northwest Territories. Charles Arnold (GNWT)(IN-14).

BE-112 Written Testimony of David B. Brooks on behalf of the Beaufort Sea Alliance. Presented at Inuvik.

BE-113 Statement of Evidence. Peter J. Usher on behalf of the Beaufort Sea Alliance.

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RB-18 THERMOGRAPHIC TELEVISION CAMERAS APPLICATION SHEET, SUBMITTED BY PROJECT PROPONENTS

RB-19 THE EFFECTS OF VESSEL TRAFFIC IN THE ARCTIC ON MARINE MALLS AND RECOMMENDATIONS FOR FUTURE RESEARCH. JUNE 1983 - MANSFIELD CANADIAN TECHNICAL REPORT OF FISHERIES AND AQUATIC SCIENCES. No. 1186

RB-20 UNDERWATER NOISE CHARTS - BROWN (DOME)

RB-21 SOCIO-ECONOMIC IMPACTS, KENN HARPER, CONSULTANT (DOME)

RB-22 A REVIEW OF TRANSCRIPT EVIDENCE AND IMPLICATIONS FOR ICEBREAKING OIL TANKERS PROPOSED FOR BEAUFORT SEA OPERATIONS, BY W. G. COOKE, Ph.D., A REPORT PREPARED FOR BEAUFORT SEA ALLIANCE

RB-23 PREPARED DIRECT TESTIMONY OF DR. KENNETH W. FISHER, FROM PHASE II, ARCTIC PILOT PROJECT HEARINGS OF THE NATIONAL ENERGY BOARD.

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WH 19(d) GOVERNMENT OF YUKON PRESENTATION BY THE HONOURABLE HOWARD TRACEY, MINISTER OF RENEWABLE RESOURCES, TO THE NORTH SLOPE PROJECT REVIEW GROUP RESPECTING BEAUFORT DEVELOPMENT ON YUKON'S NORTH COAST, OCT. 7, 1983

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OT 8 PROPONENTS OPENING STATEMENT TO BEAUFORT EARP PANEL, December 14, 1983, DOME, ESSO AND GULF

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OT 12 WIND DIRECTIONS IN THE NORTHERN LABRADOR SEA LABRADOR INUIT ASSOCIATION

OT 13 CANADIAN NATURE FEDERATION SUBMISSION TO THE BEAUFORT SEA EARP, DECEMBER 1983, GREGG SHREKY

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OT 23 RECENT STUDIES OF THE POTENTIAL EFFECTS OF INDUSTRIAL ACTIVITIES ON MARINE MAMMALS, LGL LTD., (PROPONENTS)

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OT 32 THE CLOSING STATEMENT OF THE GOVERNMENT OF THE NORTHWEST TERRITORIES TO THE BEAUFORT SEA ENVIRONMENTAL ASSESSMENT PANEL, THE HONOURABLE RICHARD NERYSOO

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BEAUFORT SEA ENVIRONMENTAL ASSESSMENT PANEL

PROCEDURES FOR COMMUNITY SESSIONS

FEBRUARY, 1983

BEAUFORT SEA ENVIRONMENTAL ASSESSMENT PANEL

INTRODUCTION TO PROCEDURES FOR PUBLIC SESSIONS

Because of the large number of participants and the scope and complexity of the evidence anticipated, the Beaufort Sea Environmental Assessment Panel has prepared the attached Procedures. In this review participants should be striving to direct their energies to the common goals of analyzing the potential impacts of the proposal, hearing the views and aspirations of Northern residents, and expressing opinions on the proposal. This approach requires all participants to be cooperative, courteous and helpful to one another when discussing facts and opinions.

The Panel desires to have an efficient and fair review, with adequate opportunity for participation from all interested persons. Fairness implies an equal opportunity to present views and opinions, without undue pressure from lawyers and others with technical expertise. Accordingly, these Procedures have been prepared, keeping in mind the following considerations:

i) The balance between the need for order and efficiency and the desirability of an informal atmosphere to encourage public participation.

ii) A process which accomodates the general public, the views and concerns of members of the affected communities, technical experts, the proponents and the government.

iii) Procedures sufficient to give an organized structure to the assessment without making the public sessions unduly complicated or rigid.

iv) A balance between the desire of each participant to present his views in a manner most favourable to their reception and the need for some consistency in method of presentation.

While these Procedures embody and expand upon the Operating Procedures released earlier by the Panel, they are not intended to cover every possible eventuality. Thus it should not be assumed that if something is not found in the Procedures, it cannot or will not be done; nor is it the spirit of the Procedures to follow them in every instance to the letter. While procedures should, in general, be observed, if there are strong reasons why the purposes of the Assessment can better be achieved through following some other procedure, the Chairman always has the discretion to amend, or to waive a procedure for any good reason.

BEAUFORT SEA ENVIRONMENTAL ASSESSMENT PANEL

PROCEDURES FOR COMMUNITY SESSIONS

CONTENTS

Purposes of Procedures

1. The Purposes of these Procedures are:

i) to permit the assessment of the environmental and socio-economic impacts of the Beaufort Sea proposal by means of procedures which are efficient and fair;

ii) to create an informal atmosphere, but with sufficient structure to provide useful results to participants and to the Panel.

(iii) to encourage cooperative and constructive discussion among participants.

Implementation and Interpretation

2. (1) These Procedures will be implemented so as to achieve the purposes set out in Procedure 1, and interpreted in a non-technical, common-sense manner.

(2) All procedural matters will be considered and decided by the Chairman.

(3) Any time limit or any other provision of any Procedure may be varied by the Chairman if he is satisfied that the purposes of these Procedures would better be achieved thereby.

Tone and Style

3. Participants will be required to present their views or questions in a tone and style that is courteous to and respectful of others.

Communications

4. (1) Members of the Panel will avoid private oral or written communications about substantive issues associated with the Assessment with anyone outside of the Panel's Staff and the Technical Specialists.

(2) Any communication about the substance of the Assessment received by a Panel member will promptly be committed to writing (if not already in written form) by the Panel member(s) involved and will be made public by placing the writing on the Public File, in accordance with Procedure 5.

(3) Other than at Sessions, all communications on substantive issues associated with the Assessment are to be conducted through the Office of the Executive Secretary.

(4) Communications with Panel members about purely procedural matters such as dates, locations or procedures for Sessions are permitted.

Openness and Public File

5. (1) All proceedings of the Panel will be conducted openly and publicly, with the sole exception of confidential deliberations of the Panel, Staff and Technical Specialists.

(2) A Public File for examination by any member of the public will be kept at the Office of the Executive Secretary and an Index of the Public File will be available at the Sessions.

(3) All information submitted to the Panel by any of the participants will be made public by placement in the Public File, or otherwise, as may be ordered by the Chairman.

(4) Copies of all correspondence relating to the Panel review process, and to matters of procedure will be placed on the Public File.

(5) Any submissions (other than those at a Session) must be in writing, with a copy provided to every other person who has commented on the EIS or otherwise indicated an intention to participate. No ruling will be made on any submission until a reasonable opportunity has been afforded to the other participants to reply.

Technical Specialists

6. (1) The Panel may retain persons specialized in various disciplines as Technical Specialists.

(2) Technical Specialists will review the EIS and other submissions of parties to the Assessment, as requested by the Panel.

(3) When these reviews have been completed and presented to the Panel, they will be made public.

(4) Any participant may request a consultation with a Technical Specialist through the Executive Secretary.

(5) Consultations will be limited to advice only, as it is not the function of Technical Specialists to prepare the submissions of participants.

Community and General sessions

7. (1) The public meetings to be held by the Panel will be of two kinds: Community Sessions and General Sessions.

(2) Community Sessions are intended to be informal and non-technical, to permit members of communities to provide their views to the Panel.

(3) General Sessions will be more structured, but also informal and open to anyone wishing to make a

presentation, and will include consideration of technical matters.

Legal Formalities Not to Apply

8. (1) Court-like procedures will not be followed at the Sessions and therefore it will not be necessary to retain legal counsel.

(2) Participants will not be required to swear any formal oath or to make any affirmation to tell the truth.

Limitation of Discussion

9. The Chairman may exercise his discretion to limit or exclude questions or comments which fall outside of the mandate of the Panel, are needlessly repetitive, or are irrelevant or immaterial.

Sessions Notices

10. These Procedures are of general application but, from time to time, the Chairman may issue Session Notices setting out the dates, times, and locations of Community Sessions, and may vary these rules, or their application, as he considers necessary.

Purpose of Community Sessions

11. The main purpose of Community Sessions is to permit community members to provide their views of the likely impacts of the proposal on their community. These Sessions will be held in the smaller communities potentially affected by the proposal, to encourage contact between the Panel and community members and representatives.

Schedule

12. A schedule setting out forthcoming Community Sessions will be made available by means of a Session Notice. This Notice will be sent to the community at least 14 days before the Session.

Interpreters

13. Interpreters will be provided at all Sessions if requested by the community and considered necessary by the Panel. Requests for such services should be made to the Secretariat well in advance of the Sessions to ensure that arrangements can be made.

Notes

14. Verbatim transcripts may not be taken at all Community Sessions but, where not, the Staff and Panel members will make tapes and careful notes of the proceedings.

Procedures

15. Procedures for Community Sessions will be informal.They will be outlined by the Chairman at the opening of the Session.

Time Limits

16. Although time limits will not be strictly imposed, Community Session participants will be encouraged to make their presentations within 30 minutes.

Non-Community Participants

17. Except for proponents (who will be permitted to make a short presentation at the opening of the Community Session, to explain their proposals) and the Panel Secretariat (who will provide an overview of previous comments pertaining to that community from other intervenors) the opportunity to make presentations will be limited to representatives and members of the communities. Non-community participants, except for those invited by the Panel or the community, are encouraged to appear at the General Sessions instead but, if special circumstances exist, may be permitted to make presentations at the discretion of the Chairman.

Role of Proponents

18. The number of representatives of the proponents at Community Sessions will normally be limited to three but this number may be increased at the

discretion of the Chairman. The proponents should summarize within 30 minutes those aspects of their proposal relevant to the geographic area in which the Community Session is being held. The proponents will be expected to respond to questioning.

Questioning and Statements

19. (1) After the proponents' summaries and Panel questioning of them has been completed, each participant may ask questions about the proposal and make a short statement. This may include any concerns or criticisms he may have of any of the proposals.

(2) At the conclusion of the statement of each community participant, a proponent may, if the Chairman permits, also ask questions limited to purposes of information and clarification.

(3) After the statements of all of the community participants have been presented, and any questioning on these has been completed, a proponent may request permission to make a final reply. The Chairman may grant this request and may set such time limit for the reply as he considers appropriate.

BEAUFORT SEA ENVIRONMENTAL ASSESSMENT PANEL

PROCEDURES FOR GENERAL SESSIONS

FEBRUARY, 1983

BEAUFORT SEA ENVIRONMENTAL ASSESSMENT PANEL

INTRODUCTION TO PROCEDURES FOR PUBLIC SESSIONS

Because of the large number of participants and the scope and complexity of the evidence anticipated, the Beaufort Sea Environmental Assessment Panel has prepared the attached Procedures. In this review participants should be striving to direct their energies to the common goals of analyzing the potential impacts of the proposal, hearing the views and aspirations of Northern residents, and expressing opinions on the proposal. This approach requires all participants to be cooperative, courteous and helpful to one another when discussing facts and opinions.

The Panel desires to have an efficient and fair review, with adequate opportunity for participation from all interested persons. Fairness implies an equal opportunity to present views and opinions, without undue pressure from lawyers and others with technical expertise. Accordingly, these Procedures have been prepared, keeping in mind the following considerations:

i) The balance between the need for order and efficiency and the desirability of an informal atmosphere to encourage public participation.

February, 1983

ii) A process which accomodates the general public, the views and concerns of members of the affected communities, technical experts, the proponents and the government.

iii) Procedures sufficient to give an organized structure to the assessment without making the public sessions unduly complicated or rigid.

iv) A balance between the desire of each participant to present his views in a manner most favourable to their reception and the need for some consistency in method of presentation.

While these Procedures embody and expand upon the Operating Procedures released earlier by the Panel, they are not intended to cover every possible eventuality. Thus it should not be assumed that if something is not found in the Procedures, it cannot or will not be done; nor is it the spirit of the Procedures to follow them in every instance to the letter. While procedures should, in general, be observed, if there are strong reasons why the purposes of the Assessment can better be achieved through following some other procedure, the Chairman always has the discretion to amend, or to waive a procedure for any good reason.

BEAUFORT SEA ENVIRONMENTAL ASSESSMENT PANEL

PROCEDURES FOR GENERAL SESSIONS

CONTENTS

Part III - Session Procedures

Part IV - Glossary of Terms

Part I - General Procedures

Purposes of Procedures

1. The Purposes of these Procedures are:

i) to permit the assessment of the environmental and socio-economic impacts of the Beaufort Sea proposal by means of procedures which are both efficient and fair;

ii) to create an informal atmosphere, but with sufficient structure to provide useful results to participants and to the Panel;

(iii) to encourage cooperative and constructive discussion among participants.

Implementation and Interpretation

2. (1) These Procedures will be implemented so as to achieve the purposes set out in Procedure 1, and interpreted in a non-technical, common-sense manner.

(2) All procedural matters will be considered by the Chairman.

(3) Any time limit or any other provision of any Procedure may be varied by the Chairman if he is satisfied that the purposes of these Procedures would better be achieved thereby.

Tone and Style

3. Participants will be required to present their views or questions in a tone and style that is courteous to and respectful of others.

Communications

4. (1) Members of the Panel will avoid private oral or written communications about substantive issues associated with the Assessment with anyone outside of the Panel's Staff and the Technical Specialists.

(2) Any communication about the substance of the Assessment received by a Panel member will promptly

be committed to writing (if not already in written form) by the Panel member(s) involved and will be made public by placing the writing on the Public File, in accordance with Procedure 5.

(3) Other than at Sessions, all communications on substantive issues associated with the Assessment are to be conducted through the Office of the Executive Secretary.

(4) Communications with Panel members about purely procedural matters such as dates, locations or procedures for Sessions are permitted.

Openness and Public File

5. (1) All proceedings of the Panel will be conducted openly and publicly, with the sole exception of confidential deliberations of the Panel, staff and technical specialists.

(2) A Public File for examination by any member of the public will be kept at the Office of the Executive Secretary and an Index of the Public File will be available at the Sessions.

(3) All information submitted to the Panel by any of the participants will be made public by placement in the Public File, or otherwise, as may be ordered by the Chairman.

(4) Copies of all correspondence relating to the Panel review process, and to matters of procedure will be placed on the Public File.

(5) Any submissions (other than those at a Session) must be in writing, with a copy provided to every other person who has commented on the EIS or

otherwise indicated an intention to participate. No ruling will be made on any submission until a reasonable opportunity has been afforded to the other participants to reply.

Technical Specialists

6. (1) The Panel may retain persons specialized in various disciplines as Technical Specialists.

(2) Technical Specialists will review the EIS and other submissions of parties to the Assessment, as requested by the Panel.

(3) When these reviews have been completed and presented to the Panel, they will be made public.

(4) Any participant may request a consultation with a Technical Specialist through the Executive Secretary.

(5) Consultations will be limited to advice only, as it is not the function of Technical Specialists to prepare the submissions of participants.

Community and General Sessions

7. (1) The public meetings to be held by the Panel will be of two kinds: Community Sessions and General Sessions.

(2) Community Sessions are intended to be informal and non-technical, to permit members of communities to provide their views to the Panel.

(3) General Sessions will be more structured, but also informal and open to anyone wishing to make a presentation, and will include consideration of technical matters.

Legal Formalities Not to Apply

8. (1) Court-like procedures will not be followed at the Sessions and therefore it will not be necessary to retain legal counsel.

(2) Participants will not be required to swear any formal oath or to make any affirmation to tell the truth.

Limitation of Discussion

9. The Chairman may exercise his discretion to limit or exclude questions or comments which fall outside of the mandate of the Panel, are needlessly repetitive, or are irrelevant or immaterial.

Transcript Costs

10. Transcripts, other than those of pre-Sessions Conferences, will be available for purchase.

Session Notices

11. These Procedures are of general application but, from time to time, the Chairman may issue Session Notices setting out the dates, times, and locations of General Sessions, and varying these Procedures, or their application, as he considers necessary.

Part II - Written Questions and Pre-Session Conferences

Purpose of Written Questions

12. (1) The purpose of written questions is to enable participants to obtain information from each other on any matter of relevance to the review which can more conveniently be provided in writing, usually prior to, rather than orally at the General Session. The Panel will encourage full and timely responses to written questions to permit more informed dialogue and to reduce the time that might otherwise be required for oral questioning.

(2) If a participant requires information of such depth and complexity that oral questioning of another participant would be lengthy and inefficient, written questions should be prepared and submitted to that participant.

(3) A copy of each written question and reply shall be provided promptly to the Executive Secretary.

Time Limits

13. The Chairman may, by Session Notice, set out time limits within which written questions may be sent by one participant to another and within which written replies should be provided to the sender.

Questions Between Participants

14. Written questioning is intended to be carried out between participants with the Chairman intervening only as a last resort. To improve communication between participants to minimize the need for intervention by the Chairman, participants should observe the following:

Questions

(1) the recipient of a written question should immediately communicate directly with the sender to attempt to arrive at a mutual understanding where he considers that:

(i) a question is unclear or ambiguous.

(ii) the information sought is irrelevant, immaterial, unavailable in the form requested or already available in the public domain or in the EIS.

(iii) a question is unfair or unreasonable.

Confidentiality

(2) If a recipient believes that a written question would require the disclosure of information which he considers confidential, he must specify in the response why confidentially is claimed. The recipient is also expected to apply due diligence to finding an alternative, or to preparing an adequate summary of the information which he would be willing to disclose.

Replies

(3) replies to written questions should be:

(i) full and responsive to the question.

(ii) delivered within the time limit that may have been set out by the Chairman under Procedure 13.

(iii) complete for each part of the question.

(iv) neither evasive nor exploitative of a technical deficiency in the question.

Communication re Deficient Replies

(4) A participant who receives a reply he considers deficient, before requesting the intervention of the Chairman, shall contact the participant to whom the question was sent to determine whether there has been any misunderstanding and whether a more adequate reply can be provided within a reasonable time period.

Disagreements Resolved by Chairman

15. (1) If no agreement can be reached between the participants, either may refer the issue to the Chairman through the Executive Secretary. The Chairman may place the matter on the agenda of a Pre-session Conference or may resolve the disagreement to his satisfaction in such other way as he may consider convenient, including a decision at the General Session.

Replies to be Rewritten

(2) Replies considered to be deficient by the Chairman may be required to be rewritten within a time limit to be specified.

Session Rescheduling

(3) The Chairman may also reschedule or adjourn any General Session until a full and adequate reply has been delivered to the participant and he has had a reasonable time to make use of it in preparing his presentations.

Pre-session Conferences

16. (1) One or more Pre-Session Conferences will be held on dates to be specified by means of a notice.

(2) The purposes of Pre-Session Conferences are to outline the Panel's Procedures, timetables, and subject matter for each of the General Sessions, and to allow the Chairman to resolve any procedural problems arising prior to the Sessions.

(3) Each proponent shall attend all Pre-Session Conferences related to its proposal and other participants are encouraged to attend as well.

(4) Each participant at a Pre-Session Conference will be expected to provide a preliminary indication as to the number of persons he intends to have speak, the field of expertise of each, the anticipated filing date of presentation(s), and the duration of his oral presentation. Participants should also indicate which General Session they propose to attend and, if some form of written position statement has not been filed, the main points of the position they will make at the Session.

(5) Anyone who is unable to attend the Pre-Session Conference and who intends to make a presentation is requested no later than 3 working days before the Conference, to communicate to the Executive Secretary the information he would have provided had he attended the Conference.

(6) A Pre-Session Conference may be chaired by the Chairman, a Panel member or other person designated by the Chairman. Transcripts will be taken.

Part III - Session Procedures

Purposes of General Sessions

17. The General Sessions have two purposes:

i) to permit those from the community in which the General Session is held, or from other communities, to present their views in a manner similar to that of participants at Community Sessions;

ii) to provide an opportunity for anyone else to make a presentation to the Panel, on both non-technical and technical subjects.

Notice

18. A Session Notice will be issued indicating the times and locations of each General Session.

Interpreters

19. If requested by any of the participants and held to be necessary by the Chairman, interpreters will be provided.

Transcripts

20. Transcripts of proceedings will be prepared as soon as possible after each General Session.

Intention to Participate

21. (1) Anyone wishing to make a presentation at any General Session shall give notice of his intention to participate to the Executive Secretary not less than one week before the opening of the Session. Any person providing timely notice of intention to participate will be included on the list of participants.

(2) Although time may be available at the end of a General Session for participants not on the list, priority will be given to those who have been listed.

Participants May be Questioned

22. All participants may, in accordance with Procedure 23, be asked by the Chairman to respond to questions relating to matters of relevance to the review. Procedures 23 through 31 describe the manner in which this questioning will be conducted.

Technical Presentations

23. Anyone submitting scientific or technical facts or expert opinion will be subject to extensive, detailed questioning. Others may be questioned informally for purposes of clarification, at the discretion of the Chairman.

Parts of Presentations

24. Any parts of presentations which are considered by the Chairman to be of scientific or technical facts or expert opinion will be subject to questioning.

Limiting

25. The Chairman may limit questioning between participants whose interests are substantially similar.

Opening and Final Statements

26. (1) Participants intending to present scientific or technical information may request permission to make a short (maximum 10 minutes) introductory statement to inform the Panel of the nature and structure of this information.

(2) After any opening statements, participants will be permitted to present both technical and non-technical facts or information on the proposal.

(3) A participant may make a final statement, after the presentation of facts or information, provided that he does not repeat what he has said earlier in the Session.

Final Presentations

(4) Final statements may not contain any new scientific or technical information and will not be subject to questioning.

(5) Final statements presented orally shall be limited to 20 minutes unless, upon application and for acceptable reasons, additional time is provided by the Chairman. Participants may expand upon their oral statement in writing within one week of making the oral statement providing copies are forwarded to the other participants.

Questioning of Participants

27. (1) Questioning of participants may be to obtain further information or explanation, or to question the correctness of facts or the validity of opinions presented.

(2) Questioning does not include making critical speeches or arguments. Criticism or argument may be presented during the participant's own final statement.

Sequence of Presentations

28. (1) Presentations will normally be made in the following sequence: proponent(s); Technical Specialists; other participants in an order to be determined by the Chairman.

(2) Each person may be questioned immediately after his presentation.

Changes in Order

(3) Where circumstances require it, any participant may request the Chairman to change the order of presentations and the Chairman may make such changes to the sequence of questioning or presentation as he may consider desirable.

Pre-filing Presentations

29. (1) The Chairman may by Session Notice provide a list of participants to whom advance copies of presentations of scientific or technical fact or expert opinion shall be delivered, and may prescribe such time limits and methods for delivery as he considers appropriate.

(2) Unless a longer time is ordered by the Chairman, such presentations must be filed with the Panel and a copy delivered no less than one week

before the scheduled presentation, to such participants as may be set out in the Session Notice.

(3) If in the opinion of the Chairman the presentation filed is of such length and complexity as to be unfair to expect the other participants to prepare for their questioning within a week, the Chairman may order an extension of time, and may defer the presentation before the Panel until after the extended time.

Groups of Experts

30. (1) More than one individual may participate in a presentation to ensure that the Panel and questioners receive answers to their questions from the most qualified person.

(2) When a presentation is made by a number of individuals together, each speaking on a particular area of his expertise, a participant may direct his questions to any individual in the group.

(3) If that person is unable to answer the question he may refer it to another member of the group for reply.

Disagreements re Questioning

31. If a participant refuses to answer a question, the Panel may take that factor into account in assessing the weight to give to his presentation.

Adjournments

32. The Chairman will rule on all adjournments which will normally be only as set out in the Session Notices.

Part IV - Glossary of Terms

The terms used in these Procedures shall be defined and used as follows:

Community Session	Informal public meetings held by the Panel to receive the views of communities potentially affected by the Beaufort Sea projects.
Environmental Impact (EIS)	A statement prepared by the proponents to predict and assess the major environmental and socio-economic effects of the proposal if approved, and implemented, as proposed.
Executive Secretary	The person who administers the Panel's Office and assists it in all the administrative aspects of the review process. The Executive Secretary of the Beaufort Sea Panel review is Mr. David Marshall, and his address is 700-789 West Pender Street, Vancouver, V6C 1H2.
General Sessions	Public meetings held by the Panel to hear and discuss presentations from all review participants, on both technical and non-technical subjects.
Materiality	A question or statement is material if it is of sufficient importance to merit consideration, having regard to the time and effort it will consume.
Panel	The Beaufort Sea Hydrocarbon Production and Transportation Environmental Assessment Panel, consisting of: Mr. Titus Allooloo, Mr. Douglas Craig, Mr. Knute Hansen, Mr. Allen Lueck, Dr. Ross Mackay, Mr. Michael Stutter, and Dr. John Tener (Chairman).

Partici-pants	The initiator, proponents, intervenors, persons making informal presentations at Community or General Sessions, Technical Specialists.
Proponents	The companies responsible for the proposal, i.e., Dome Petroleum Limited, Esso Resources Canada Limited and Gulf Canada Resources Incorporated.
Proposal	The proponents' intention to produce oil and gas from the Beaufort Sea and MacKenzie Delta area and transport them to markets. The proposal contains a description of some of the options being considered for production and transportation.
Public File	The Public File will contain all information submitted in relation to the Assessment and will be available for public inspection at Ottawa, Vancouver and Inuvik.
Questioning	Oral questions put to participants which, if relevant and material, must be answered fully and truthfully.
Relevance	A question or statement is relevant if it relates to a matter which is before the Panel for consideration, either because it is part of the proposal of one of the proponents, or because it is part of the comment thereon by one of the other participants, provided always that it falls within the general mandate of the Panel and the scope of its review.
Statement	The presentation, orally or in writing, of conclusions, recommendations, requests, concerns, or viewpoints.

Written Question A written question addressed by one participant to another, seeking a written reply. The question may be about any relevant matter such as the manner in which certain numbers were calculated, the basis for certain statements, techniques used to obtain scientific data, and so on.

Beaufort Sea EARP - Intervenor Funding

The Department of Indian Affairs and Northern Development (DIAND) and the Federal Environmental Assessment Review Office (FEARO) reached an agreement to provide DIAND intervenor funding for the Beaufort Sea Environmental Assessment and Review Process (EARP), subject to the availability of funds, through an independent funding committee.

An independent Funding Applications Review Committee was established by FEARO, in consultation with DIAND, to act as an impartial arbitrator to deal with funding applications for the Beaufort Sea EARP. The Committee decided on whether or not applications qualify for funding. In the case of qualified applicants, the Committee reviewed all applications and made recommendations on funding based on:

- the relevance of the applicant's declared public concern and how this concern would be brought to the Panel;
- what information the applicant would provide to the Panel;
- the applicant's proposed work plan;
- the merits of applicant's budget; and,
- what role the applicant would play following the Panel's recommendations.

The Committee did not direct funding recipients as to how or when they should spend their money, beyond accepted government financial procedures. Membership on the Committee included F. Roots,J. Stager, and R. Pilot.

Funds were provided to qualified applicants on the signing of standard contribution agreements by the recipients, FEARO and DIAND. DIAND criteria were used and financial and activity reports were called for under the contribution agreements.

The Beaufort Sea EARP Panel held two sets of public hearings. The first set of hearings, on the draft environmental impact statement (EIS) guidelines, were held during late November and December 1981 in Aklavik, Calgary, Fort Norman, Inuvik, Pangnirtung, Pond Inlet, Sachs Harbour, Tuktoyaktuk, Whitehorse and Yellowknife. The second set of public hearings, on the EIS, were conducted from September 13 through to December 16, 1983 in Aklavik, Arctic Bay, Arctic Red River, Calgary, Coppermine, Fort Franklin, Fort Good Hope, Fort McPherson, Fort Norman, Fort Simpson, Frobisher Bay, Holman, Inuvik, Nain, Norman Wells, Old Crow, Ottawa, Pangnirtung, Paulatuk, Pond Inlet, Resolute, Sachs Harbour, Tuktoyaktuk, Whitehorse and Yellowknife.

The widespread northern implications of the Beaufort Sea Development proposals (pipelines up the Mackenzie Valley and/or ice-breaking oil tankers through the Northwest Passage) raised the concerns of many northern communities and northern groups. This resulted in 19 northern communities and seven native groups obtaining intervenor funding. In addition, the Beaufort Sea Alliance, a coalition of northern

and southern environmental interst groups, received funding and offered assistance to northern native groups in preparing interventions. The extended nature of the hearings resulted in the large total amounts provided, as detailed in the attached table.

The Beaufort Sea EARP Panel commented on the usefulness of this intervenor fudning program.

Group	81/82	82/83	83/84	TOTAL
Arctic Bay	2,000	6,000	-	8,000
Town of Inuvik	28,000	60,000	-	88,000
Tuktoyaktuk	4,000	12,000	-	16,000
Beaufort Sea Advisory Committee	20,000	20,000	-	40,000
Beaufort Sea Research Coalition	134,000	-	-	134,000
Beaufort Sea Alliance	-	100,000	55,000	155,000
Metis Association	36,000	70,000	-	106,000
Dene Nation	59,000	50,000	26,912	135,912
Inuit Tapirisat	23,000	75,000	2,981	100,981
Council for Yukon Indians	6,500	10,000	-	16,500
Inuvik Chamber of Commerce	-	7,500	-	7,500
Pond Inlet	1,000	10,000	-	11,000
Old Crow Band Council	1,500	6,000	-	7,500
Canadian Reindeer (1978) Ltd.	-	7,500	-	7,500
Hamlet of Aklavik	-	30,000	-	30,000
Baffin Region Inuit Association	-	40,000	9,094	49,094
Fort Norman Band & Settlement	-	2,500	-	2,500
Fort McPherson Settlement Council	-	8,000	-	8,000
National and Provincial Parks	-	1,500	-	1,500
Fort Good Hope Dene Communcity	-	6,000	-	6,000
Paulatuk Settlement Council	-	2,500	-	2,500
Labrador Inuit Association	-	20,000	5,774	25,774
Holman Settlement Council	-	7,000	-	7,000
Hamlet of Norman Wells	-	7,000	-	7,000
Town Council of Nain	-	-	7,000	7,000
Sachs Harbors Hunters & Trappers	-	5,000	-	5,000
Makkovik	-	-	2,500	2,500
Postville	-	-	2,500	2,500
Hopedale	-	-	2,500	2,500
Rigolet	-	-	2,500	2,500
Fort Simpson Dene Band	-	6,930	-	6,930
Beaufort Hunters and Trappers	-	-	2,500	2,500
Total:	315,000	570,430	119,261	1,004,691